

Appendix for IS/MND
**Sewer Replacement in the
Nevada Avenue and Bodger Street Area CIP 005**
February 8, 2021

Prepared By:



Prepared for
City of El Monte
Department of Public Works
Engineering Division
Contact: Leticia Ortiz
626.580.2022

Appendices for the
Initial Study Mitigated Negative Declaration

for

CIP 005, Sewer Replacement Project in the Nevada Avenue
and Bodger Street Area

Prepared for
City of El Monte
Department of Public Works
Engineering Division
Contact: Leticia Ortiz

Prepared by



300 SPECTRUM CENTER DRIVE SUITE 400 IRVINE, CA 92618
CONTACT: LORI TROTTIER, AICP CEP

FEBRUARY 8, 2021

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APPENDIX A

Pre-Construction Environmental Evaluation

Sewer Replacement

Nevada Avenue and Bodger Street Area

El Monte, California

Infrastructure Engineering Company
300 Spectrum Center Drive, Suite 400 | Irvine, California 92618

February 5, 2020 | Project No. 210803001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Pre-Construction Environmental Evaluation

Sewer Replacement

Nevada Avenue and Bodger Street Area

El Monte, California

Ms. Sarita Lemons

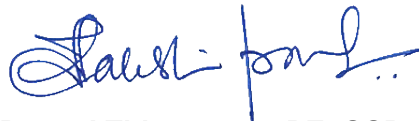
Infrastructure Engineering Company

300 Spectrum Center Drive, Suite 400 | Irvine, California 92618

February 5, 2020 | Project No. 210803001



Audrey Carroll
Staff Geologist



Prasad Thimmappa, PE, QSD
Senior Engineer



John Jay Roberts, PG, CEG
Principal Geologist

AUC/PT/JJR/mlc

Distribution: (1) Addressee (via e-mail)

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1 INTRODUCTION

In accordance with our proposals dated March 23, 2018, and April 9, 2019, Ninyo & Moore performed a pre-construction environmental evaluation of the soil that is anticipated to be encountered during sewer replacements proposed by the City of El Monte in the Nevada Avenue and Bodger Street Areas in El Monte, California (site, Figure 1). The purpose of our evaluation was to evaluate the near and subsurface soil along the proposed sewer replacement alignments for potential chemical impact from lead and pesticides that may be present due to the age of the residential neighborhood, for worker safety, and waste characterization for disposal.

2 SITE DESCRIPTION AND BACKGROUND

The subject site is located in the area between North Santa Anita Avenue (west side of location), Mildred Street (north side of location), Tyler Avenue (east side of location), and East Garvey Avenue (south side of location). The site is a residential area in the north end of South El Monte, next to Tony Arceo Memorial Park. The elevation of the site is approximately 270 feet above sea level, and it is approximately 13 miles to the east of Los Angeles.

3 SUBSURFACE EVALUATION AND LABORATORY TESTING

Subsurface exploration at the site was performed on March 21 and July 18, 2019, and consisted of the drilling, logging, and sampling of subsurface soil from ten locations by advancing borings to depths of up to approximately 2.5 feet below ground surface (bgs). The borings were advanced using a hand-operated auger. The borings were advanced to evaluate the subsurface conditions and to collect soil samples for laboratory testing. Excavated soils were logged in accordance with the United States Soil Classification System. Bulk and relatively undisturbed soil samples were obtained at selected depths for laboratory testing. The approximate locations of the borings are presented on Figure 2 (borings B-1 through B-10).

A brief description of the field activities conducted at the site is provided below:

- Project coordination and consultation with the project team to coordinate owner notifications.
- A site reconnaissance was conducted to locate proposed borings for utility clearance and coordinate with Underground Service Alert for underground utility location. The borings were generally located on unpaved surfaces in the yards of residential properties adjacent to the front of the house or the sidewalk and where underground utilities were not likely to be encountered. Descriptions of the boring locations are presented on Table 1.
- Five initial soil borings (with samples designated by HA-1 to HA-5) were advanced using a hand auger to approximately 2.5 feet bgs. Five more soil borings (with samples designated by SS #1 to SS #5) were advanced in approximately the same locations since the holding

time on the previous samples had elapsed. Subsequently, five more soil borings (with samples designated by SS #6 to SS #10) were advanced using a hand auger to approximately 2.5 feet bgs at new locations in the project area to gather additional information.

- Two soil samples were collected from each boring, one at 0.5 feet bgs and one at 2.5 feet bgs. A 2.5-foot soil sample was inadvertently not collected from boring B-7.
- The soil samples were logged and field screened for indications of contamination. Field screening was conducted using a calibrated photo-ionization detector, by visual observation, and by evidence of odors.
- The 0.5 foot samples (HA-1 through HA-5) from borings B-1 through B-5 were analyzed for organochlorine pesticides (OCPs) in accordance with United States Environmental Protection Agency (EPA) Method 8081A. OCPs are generally more persistent chemicals, which have a slow rate of decay compared to other pesticides.
- Both the 0.5 foot and 2.5-foot soil samples from the borings, except the 2.5-foot sample from boring B-7, were analyzed for lead in accordance with the EPA Method 6010B. The analytical laboratory was instructed to analyze the lead samples for Soluble Threshold Limit Concentration (STLC) if the reported total lead concentrations exceeded 5 times STLC (or 50 milligrams per kilogram [mg/kg]) and for leachable lead using Toxicity Characteristic Leaching Procedure (TCLP) if the reported total lead concentration exceeded 10 times the TCLP limit (or 100 mg/kg).
- STLC and TCLP analyses are used to determine whether or not a waste material will be characterized as either Resource Conservation and Recovery Act (RCRA) hazardous waste or non-RCRA hazardous waste.
- Eight samples with lead levels exceeding 50 mg/kg were analyzed for STLC and six of the samples that exceeded 100 mg/kg were analyzed for leachable lead using the TCLP. Shallow soil samples from these five initial sample locations had to be resampled as the holding time for STLC analyses had elapsed by the time analyses were authorized.
- The 0.5-foot soil samples (SS #1 through SS #4 and SS #6 through SS #10) from borings B-1 through B-4 and B-6 through B-10 and the 2.5-foot soil samples (SS #6 and SS #8 through SS #10) from borings B-6 and B-8 through B-10, were analyzed for arsenic in accordance with the EPA Method 6010B.
- Soil sample analytical results are summarized in Tables 2 and 3. Laboratory reports are presented in Appendix A.

4 FINDINGS AND CONCLUSIONS

Based on the results of the above assessment, Ninyo & Moore presents the following findings and conclusions.

- Pesticides were not detected in the 0.5 foot samples HA-1 and HA-2. Low detections of pesticides; alpha-Chlordane, gamma-Chlordane, Dieldrin, 4,4'-Dichlorodiphenyldichloroethane, and 4,4'-dichlorodiphenyldichloroethylene were reported in the other three samples. The reported concentrations did not exceed the regulatory screening levels in the soil samples analyzed.

- Lead was reported exceeding the Department of Toxic Substances Control (DTSC) screening level for residential land use of 80 mg/kg in eight locations in near-surface (0.5 foot) soil samples analyzed.
- Lead was reported exceeding the STLC limits in three of the near-surface (0.5 foot) soil samples collected from boring locations B-3 (SS #3), B-4 (SS #4), and B-6 (SS #6). The soil from these locations should be characterized as non-RCRA or California hazardous waste. Soil waste from other locations can be characterized as non-hazardous waste and may be disposed of as non-hazardous waste, subject to meeting acceptance criteria of the receiving facility.
- Lead was not reported exceeding the DTSC screening level of 80 mg/kg in the deep samples (2.5 feet bgs).

A 2.5-foot soil sample was inadvertently not collected from boring location B-7 (SS #7). Based on the fact that the lead concentration reported in the shallow sample from this location (28 mg/kg) is below the DTSC screening level and that the reported lead concentrations in the remaining deep soil samples analyzed were an order of magnitude lower than the shallow samples, the omission of this sample is not significant.

- No samples tested for TCLP exceeded the regulatory limit of 5 mg/l.
- Arsenic was reported exceeding the DTSC acceptable cleanup levels for schools and residential land use of 12 mg/kg in two soil samples (15 mg/kg reported in SS #2 and SS #3 at 0.5 feet bgs).

5 RECOMMENDATIONS

Hazardous waste excavation activities are regulated by the RCRA, Code of Federal Regulations, Occupational Safety and Health Administration (OSHA), and California Code of Regulations (CCR), which provide mandatory requirements for: evaluation of the waste generated during excavation activities against hazardous waste criteria; management of hazardous wastes; transport of hazardous waste on highways and freeways; and health and safety issues for workers on- and off-site as well as for the general public. In addition, South Coast Air Quality Management District (SCAQMD) regulates air emissions by controlling stationary and mobile sources through combined state and local programs. Air emissions from excavation or transport of soils with elevated levels of lead will trigger SCAQMD Rules 403 and 1466, which require the implementation of a Dust Control Plan.

Based on the findings from the above assessment, Ninyo & Moore provides the following recommendations:

- Shallow soil (surface to approximately 1.5 feet bgs) excavated from the vicinity of boring locations B-3, B-4, and B-6 should be stockpiled separately. Soil represented by these samples should be characterized as non-RCRA California hazardous waste and disposed of

at an appropriately licensed facility. Field screening tools such as an x-ray fluorescence instrument can be utilized to screen the soil to delineate the lateral and vertical extent of lead concentrations within the excavations.

- A copy of this report, including analytical data, should be provided to contractors performing subsurface work, including but not limited to geotechnical investigations, utility installations, or other construction, to develop an applicable health and safety program.
- The contractor performing the earthmoving activities within the project area should follow the construction specification documents prepared for the site. These specifications should describe the steps that should be followed to mitigate the environmental issues related to soil impact at the site.
- The contractor performing the earthmoving activities should be aware of the potential presence of elevated levels of arsenic and lead in site soils, and the potential health hazards from airborne exposure to lead in soil.
- The contractor performing the earthmoving activities within the project area should be prepared to encounter, manage, and dispose of arsenic impacted and non-RCRA California hazardous waste soil. The City should approve the planned receiving facility/party for any soil to be transported off- site in advance of that soil being transported off site.
- The soil in the near surface layer (surface to 1.5 foot bgs) of sample locations impacted with lead (vicinity of borings B-3, B-4, and B-6) should be removed as non-RCRA California hazardous waste for the entire width of the excavation and should be disposed of at a Class 1 disposal facility in accordance with Title 22 CCR requirements. Excavated soil near the surface layers of the sample locations impacted with arsenic above the DTSC acceptable cleanup levels for schools and residential areas (vicinity of borings B-2 and B-3) should also be disposed of at an appropriate receiving facility in accordance with Title 22 CCR requirements. The contractor should refer to the project excavation plans for details. After the arsenic and lead impacted soil exceeding the regulatory screening levels of 12 mg/kg and 80 mg/kg, respectively, is removed from the site, the remaining site soil may be classified as non-hazardous waste.
- Site workers conducting the hazardous soil removal (e.g., conducting earthwork) should complete a training program meeting the requirements of 29 CFR 1910.120 and 8 CCR 1532.1 and 8 CCR 5192.
- The following plans will be required for performance of the earthmoving activities within the project area. Plans should be provided to the City for approval prior to the commencement of field activities:
 - A site-specific health and safety plan (HSP) for use by the contractor and all of its subcontractors doing fieldwork in association with the arsenic and lead in the soil. The site-specific HSP should be reviewed, signed, and stamped by a Certified Industrial Hygienist (CIH) and a copy should be provided to the City for review and approval prior to starting contaminated soil removal activities.
 - An arsenic and lead compliance plan should be prepared, reviewed, signed, and stamped by a CIH which includes a hazard analysis, dust control measures, air monitoring, signage, work practices, emergency response plans, personal protective equipment, decontamination, and documentation.

- Appropriate mitigation measures must be implemented in accordance with SCAQMD Rules 403 and 1466 to minimize dust.
- An excavation and transportation plan (ETP) should be prepared for earthmoving activities conducted at the site. The written, project specific ETP will establish the procedures to comply with requirements for excavating, transporting, and disposing or reusing soil associated with the site. The ETP must comply with the regulations of the California DTSC and California OSHA. The ETP should include a sampling and analysis plan for the stockpile sampling and a transportation plan for the hazardous waste. The sampling and analysis portions must meet the requirements for the design and development of the sampling plan and reporting of test results contained in the EPA, SW 846, "Test Methods for Evaluating Solid Waste," Volume II: Field Manual Physical/Chemical, Chapter Nine, Section 9.1. The plan must include the following elements:
 - ◆ Excavation schedule by location and date.
 - ◆ Stockpile sampling and analysis plan for waste characterization. Stockpiles must be identified as suspected RCRA-Hazardous Waste, California-Hazardous Waste, Impacted Non-Hazardous Waste, or Acceptable for Reuse.
 - ◆ Dust control measures.
 - ◆ Site(s) for disposal of hazardous waste.

6 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific

chemical or physical constituents in samples collected from the subject Site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a Site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

7 REFERENCES

Cal-EPA, see California Environmental Protection Agency

California Division of Mines and Geology, 1965, Geologic Map of El Monte Sheet.

California Environmental Protection Agency (CAL/EPA), 2019, Toxicity Criteria Database: <http://www.oehha.ca.gov/risk/chemicaldb/index.asp>, dated April.

California State Water Resources Control Board, 2020, GeoTracker Website: www.geotracker.swrcb.ca.gov; accessed in February.

Department of Toxic Substances Control, 2006, Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers, revised June 9.

DTSC, see Department of Toxic Substances Control

EPA, see United States Environmental Protection Agency

GeoTracker, see California State Water Resources Control Board

Ninyo & Moore, 2018, Proposal for Geotechnical Consulting Services, Sewer Replacement Nevada Avenue and Bodger Street Area, City of El Monte, CIP No. 005, dated March 23.

Ninyo & Moore, 2019, Proposal for Additional Environmental Consulting Services, Sewer Replacement Nevada Avenue and Bodger Street Areas, dated April 9.

United States Environmental Protection Agency, 2019, Regional Screening Levels (formerly PRGs) website: <http://www.epa.gov/region9/superfund/prg/>, November.

USGS, see United States Geological Survey.

Table 1 – Summary of Sampling Locations and Samples Collected

Boring Location	Sample ID	Date Sample Collected	Address	Sampling Location
B-1	HA-1 @ 0.5'	3/21/2019	3041 Lexington Avenue	Planter area adjacent to the front of the house
	HA-1 @ 2.5'	3/21/2019		
	SS #1 @ 0.5'	7/18/2019		
B-2	HA-2 @ 0.5'	3/21/2019	3052 Washington Avenue	Grass area adjacent to the sidewalk
	HA-2 @ 2.5'	3/21/2019		
	SS #2 @ 0.5'	7/18/2019		
B-3	HA-3 @ 0.5'	3/21/2019	3137 Nevada Avenue	Planter area adjacent to the front of the house
	HA-3 @ 2.5'	3/21/2019		
	SS #3 @ 0.5'	7/18/2019		
B-4	HA-4 @ 0.5'	3/21/2019	3027 Gage Avenue	Approximately 7 feet from the edge of the front of the house
	HA-4 @ 2.5'	3/21/2019		
	SS #4 @ 0.5'	7/18/2019		
B-5	HA-5 @ 0.5'	3/21/2019	3107 Granada Avenue	Approximately 5 feet from the edge of the front of the house adjacent to the stairs
	HA-5 @ 2.5'	3/21/2019		
B-6	SS #6 @ 0.5'	7/18/2019	3028 Granda Avenue	Middle section of front lawn
	SS #6 @ 2.5'	7/18/2019		
B-7	SS #7 @ 0.5'	7/18/2019	3113 Gage Avenue	Side yard near north property line
	-	-		
B-8	SS #8 @ 0.5'	7/18/2019	3024 Lexington Avenue	Front yard close to sidewalk
	SS #8 @ 2.5'	7/18/2019		
B-9	SS #9 @ 0.5'	7/18/2019	3106 Washington Avenue	South side of front yard adjacent to the sidewalk
	SS #9 @ 2.5'	7/18/2019		
B-10	SS #10 @ 0.5'	7/18/2019	3037 Nevada Avenue	Grass area adjacent to the sidewalk
	SS #10 @ 2.5'	7/18/2019		

Table 2 – Soil Sample Analytical Results – OCPs

Boring Location	Sample ID	Sample Depth (feet bgs)	Date Sample Collected	EPA Method 8081A (µg/kg)					
				4,4'-DDD	4,4'-DDE	gamma-Chlordane	alpha-Chlordane	Dieldrin	Other OCPs
B-1	HA-1 @ 0.5'	0.5	3/21/2019	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND
B-2	HA-2 @ 0.5'	0.5	3/21/2019	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND
B-3	HA-3 @ 0.5'	0.5	3/21/2019	78	30	120	230	8.5	ND
B-4	HA-4 @ 0.5'	0.5	3/21/2019	78	30	ND<5.0	ND<5.0	8.5	ND
B-5	HA-5 @ 0.5	0.5	3/21/2019	ND<5.0	ND<5.0	ND<5.0	ND<5.0	5.6	ND
Regulatory Screening Levels (µg/kg)									
EPA RSLs (Residential Soil)				1,900	2,000	1,700	1,700	34	Various
DTSC HERO HHRA (Residential Soil)				NL	NL	440	440	NL	Various
Hazardous Waste Criteria									
TCLP (µg/l)				NL	NL	30	30	NL	Various
STLC (µg/l)				100	100	250	250	800	Various
TTLC (µg/kg)				1,000	1,000	2,500	2,500	8,000	Various

Notes:

Bold indicates value is above screening level

bgs - below ground surface

DTSC Acceptable Clean Up Levels - DTSC's Determination of a Southern California Regional Background Arsenic concentrations in soil (March, 2008)

DTSC HERO HHRA - Department of Toxic Substances Control Human and Ecological Risk Office Human Health Risk Assessment, Note 3, Recommended Screening Levels for Soil (April 2019)

EPA - United States Environmental Protection Agency

ID - Identification

mg/kg - milligrams per kilogram

ND< - not detected above the laboratory reporting limit

NL - not listed

OCPs - organochlorine pesticides

RSLs- United States Environmental Protection Agency Regional Screening Levels, November 2017

STLC - Soluble Threshold Limit Concentration

* - non-cancer endpoint

Table 3 – Soil Sample Analytical Results – Arsenic and Lead

Boring Location	Sample ID	Sample Depth (feet bgs)	Date Sample Collected	EPA Method 6010B (mg/kg)		STLC and TCLP by 6000/7000 Series Methods (mg/l)	
				Arsenic	Lead	STLC (Lead)	TCLP (Lead)
B-1	HA-1 @ 0.5'	0.5	3/21/2019	--	140	--	--
	HA-1 @ 2.5'	2.5	3/21/2019	--	2.9	--	--
	SS #1 @ 0.5'	0.5	7/18/2019	11	75	4.7	--
B-2	HA-2 @ 0.5'	0.5	3/21/2019	--	59	--	--
	HA-2 @ 2.5'	2.5	3/21/2019	--	5.8	--	--
	SS #2 @ 0.5'	0.5	7/18/2019	15	130	4.1	ND<0.10
B-3	HA-3 @ 0.5'	0.5	3/21/2019	--	110	--	--
	HA-3 @ 2.5'	2.5	3/21/2019	--	5.6	--	--
	SS #3 @ 0.5'	0.5	7/18/2019	15	180	10	ND<0.10
B-4	HA-4 @ 0.5'	0.5	3/21/2019	--	87	--	--
	HA-4 @ 2.5'	2.5	3/21/2019	--	ND<3.0	--	--
	SS #4 @ 0.5'	0.5	7/18/2019	ND<4.5	120	7	ND<0.10
B-5	HA-5 @ 0.5'	0.5	3/21/2019	--	11	--	--
	HA-5 @ 2.5'	2.5	3/21/2019	--	ND<3.0	--	--
B-6	SS #6 @ 0.5'	0.5	7/18/2019	ND<5.0	290	16	ND<0.10
	SS #6 @ 2.5'	2.5	7/18/2019	ND<5.0	4.4	--	--
B-7	SS #7 @ 0.5'	0.5	7/18/2019	ND<5.0	28	--	--
B-8	SS #8 @ 0.5'	0.5	7/18/2019	11	130	4.5	ND<0.10
	SS #8 @ 2.5'	2.5	7/18/2019	ND<5.0	3.2	--	--
B-9	SS #9 @ 0.5'	0.5	7/18/2019	8.0	110	3.2	ND<0.10
	SS #9 @ 2.5'	2.5	7/18/2019	ND<5.0	4.8	--	--
B-10	SS #10 @ 0.5'	0.5	7/18/2019	7.7	97	2.7	--
	SS #10 @ 2.5'	2.5	7/18/2019	ND<5.0	9.6	--	--

Regulatory Screening Levels (mg/kg)

EPA RSLs (Industrial Soil)	3.0	800	NA	NA
EPA RSLs (Residential Soil)	0.68	400	NA	NA
DTSC HERO HHRA (Commercial Soil)	0.36	320*	NA	NA
DTSC HERO HHRA (Residential Soil)	0.11	80*	NA	NA
DTSC Cleanup Goal for Southern California	12	NL	NA	NA

Hazardous Waste Criteria

TCLP (mg/l)	NA	NA	5.0	5.0
STLC (mg/l)	NA	NA	5.0	5.0

Notes:

Bold indicates value is above screening level

bgs - below ground surface

DTSC Acceptable Clean Up Levels- DTSC's Determination of a Southern California Regional Background Arsenic concentrations in soil (March, 2008)

DTSC HERO HHRA - Department of Toxic Substances Control Human and Ecological Risk Office Human Health Risk Assessment, Note 3, Recommended Screening Levels (April 2019)

EPA - United States Environmental Protection Agency

ESL - Environmental Screening Levels

ID - Identification

mg/kg - milligrams per kilogram

mg/l - milligrams per liter

NA - not applicable

NL - not listed

ND< - not detected above the laboratory reporting limit

RSLs- United States Environmental Protection Agency Regional Screening Levels (April 2019)

RWQCB - Regional Water Quality Control Board

STLC - Soluble Threshold Limit Concentration. Samples with lead concentrations exceeding 10 times the STLC limit were analyzed for STLC lead.

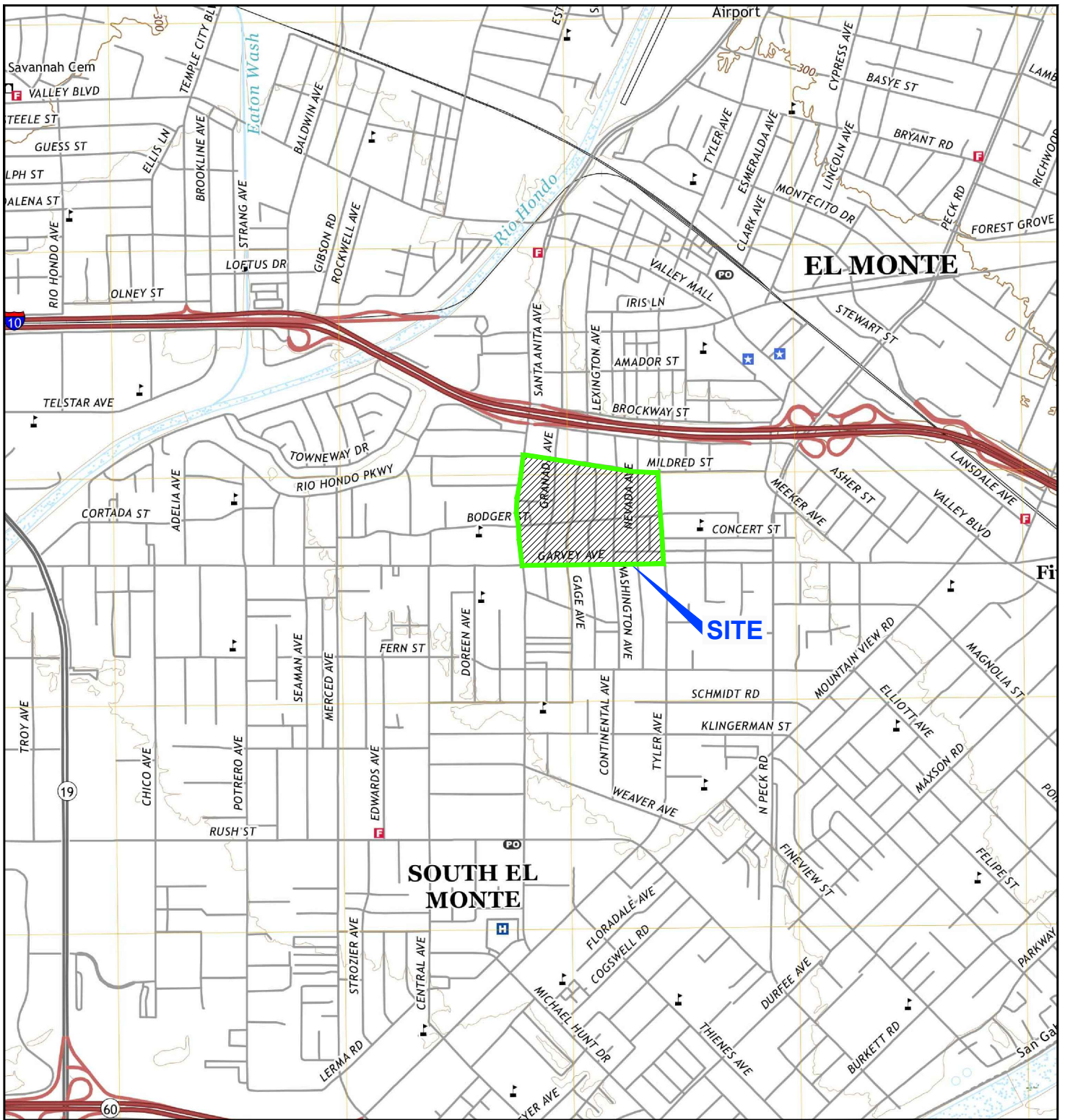
TCLP - Toxicity characteristic leaching procedure. Samples with lead concentrations exceeding 20 times the TCLP limit were analyzed for TCLP lead.

* - non-cancer endpoint

-- - not analyzed



FIGURES



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: USGS, 2018.

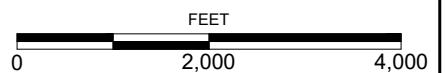


FIGURE 1

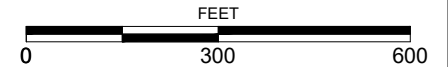


LEGEND

B-10
TD=2.5



BORING;
TD=TOTAL DEPTH IN FEET



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. I IEC, 2019.

FIGURE 2

SITE PLAN AND BORING LOCATIONS

NEVADA AVENUE AND BODGER STREET AREA
SEWER REPLACEMENT PROJECT
EL MONTE, CALIFORNIA



APPENDIX A

Analytical Laboratory Reports



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

28 March 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 03/21/19 15:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1@6	T190724-01	Soil	03/21/19 09:20	03/21/19 15:55
HA-2@6	T190724-02	Soil	03/21/19 10:10	03/21/19 15:55
HA-3@6	T190724-03	Soil	03/21/19 10:52	03/21/19 15:55
HA-4@6	T190724-04	Soil	03/21/19 11:55	03/21/19 15:55
HA-5@6	T190724-05	Soil	03/21/19 12:50	03/21/19 15:55

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

DETECTIONS SUMMARY

Sample ID: HA-1@6

Laboratory ID: T190724-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	140	3.0	mg/kg	EPA 6010b	

Sample ID: HA-2@6

Laboratory ID: T190724-02

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	59	3.0	mg/kg	EPA 6010b	

Sample ID: HA-3@6

Laboratory ID: T190724-03

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	110	3.0	mg/kg	EPA 6010b	
gamma-Chlordane	120	50	ug/kg	EPA 8081A	
alpha-Chlordane	230	50	ug/kg	EPA 8081A	
4,4'-DDE	30	5.0	ug/kg	EPA 8081A	
Dieldrin	8.5	5.0	ug/kg	EPA 8081A	
4,4'-DDD	78	5.0	ug/kg	EPA 8081A	

Sample ID: HA-4@6

Laboratory ID: T190724-04

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	87	3.0	mg/kg	EPA 6010b	
4,4'-DDE	30	5.0	ug/kg	EPA 8081A	
Dieldrin	8.5	5.0	ug/kg	EPA 8081A	
4,4'-DDD	78	5.0	ug/kg	EPA 8081A	

Sample ID: HA-5@6

Laboratory ID: T190724-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	11	3.0	mg/kg	EPA 6010b	

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

Sample ID: HA-5@6

Laboratory ID: T190724-05

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Dieldrin	5.6	5.0		ug/kg	EPA 8081A	

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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

HA-1@6
T190724-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	140	3.0	mg/kg	1	9032228	03/22/19	03/25/19	EPA 6010b	
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Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	9032215	03/22/19	03/27/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

104 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

122 % 35-140

" " " "

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

HA-2@6
T190724-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	59	3.0	mg/kg	1	9032228	03/22/19	03/25/19	EPA 6010b	
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Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	9032215	03/22/19	03/27/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene	89.3 %	35-140	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	104 %	35-140	"	"	"	"	"	"	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

HA-3@6
T190724-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	110	3.0	mg/kg	1	9032228	03/22/19	03/25/19	EPA 6010b	
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Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	9032215	03/22/19	03/27/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	120	50	"	10	"	"	"	"	
alpha-Chlordane	230	50	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	1	"	"	"	"	
4,4'-DDE	30	5.0	"	"	"	"	"	"	
Dieldrin	8.5	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	78	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene	93.9 %	35-140	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl	114 %	35-140	"	"	"	"	"	"	

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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

HA-4@6
T190724-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	87	3.0	mg/kg	1	9032228	03/22/19	03/25/19	EPA 6010b	
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Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	9032215	03/22/19	03/27/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	30	5.0	"	"	"	"	"	"	
Dieldrin	8.5	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	78	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	

Surrogate: Tetrachloro-meta-xylene

89.8 % 35-140

" " " "

Surrogate: Decachlorobiphenyl

107 % 35-140

" " " "

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

HA-5@6
T190724-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	11	3.0	mg/kg	1	9032228	03/22/19	03/25/19	EPA 6010b	
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Organochlorine Pesticides by EPA Method 8081A

alpha-BHC	ND	5.0	ug/kg	1	9032215	03/22/19	03/27/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4'-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	5.6	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4'-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4'-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		100 %	35-140		"	"	"	"	
Surrogate: Decachlorobiphenyl		120 %	35-140		"	"	"	"	

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9032228 - EPA 3050B

Blank (9032228-BLK1)

Prepared: 03/22/19 Analyzed: 03/25/19

Lead	ND	3.0	mg/kg							
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LCS (9032228-BS1)

Prepared: 03/22/19 Analyzed: 03/25/19

Lead	101	3.0	mg/kg	100		101	75-125			
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Matrix Spike (9032228-MS1)

Source: T190724-01

Prepared: 03/22/19 Analyzed: 03/25/19

Lead	221	3.0	mg/kg	98.0	138	84.5	75-125			
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Matrix Spike Dup (9032228-MSD1)

Source: T190724-01

Prepared: 03/22/19 Analyzed: 03/25/19

Lead	204	3.0	mg/kg	96.2	138	68.4	75-125	8.03	20	QR-04
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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9032215 - EPA 3550 ECD/GCMS

Blank (9032215-BLK1)

Prepared: 03/22/19 Analyzed: 03/28/19

alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4'-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4'-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4'-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	10.6		"	10.0		106	35-140			
Surrogate: Decachlorobiphenyl	13.5		"	10.0		135	35-140			

LCS (9032215-BS1)

Prepared: 03/22/19 Analyzed: 03/27/19

gamma-BHC (Lindane)	30.1	5.0	ug/kg	40.0		75.2	40-120			
Heptachlor	30.0	5.0	"	40.0		75.1	40-120			
Aldrin	31.3	5.0	"	40.0		78.1	40-120			
Dieldrin	30.9	5.0	"	40.0		77.3	40-120			
Endrin	28.5	5.0	"	40.0		71.3	40-120			
4,4'-DDT	22.1	5.0	"	40.0		55.3	33-147			
Surrogate: Tetrachloro-meta-xylene	10.2		"	10.0		102	35-140			
Surrogate: Decachlorobiphenyl	12.9		"	10.0		129	35-140			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9032215 - EPA 3550 ECD/GCMS

LCS Dup (9032215-BSD1)

Prepared: 03/22/19 Analyzed: 03/27/19

gamma-BHC (Lindane)	28.4	5.0	ug/kg	40.0		71.1	40-120	5.57	30	
Heptachlor	28.0	5.0	"	40.0		69.9	40-120	7.06	30	
Aldrin	30.0	5.0	"	40.0		75.0	40-120	4.08	30	
Dieldrin	29.4	5.0	"	40.0		73.6	40-120	4.90	30	
Endrin	26.3	5.0	"	40.0		65.8	40-120	8.04	30	
4,4'-DDT	19.2	5.0	"	40.0		48.1	33-147	14.0	30	
Surrogate: Tetrachloro-meta-xylene	9.74		"	10.0		97.4	35-140			
Surrogate: Decachlorobiphenyl	12.2		"	10.0		122	35-140			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
03/28/19 16:39

Notes and Definitions

QR-04 The percent recovery and/or RPD was outside acceptance criteria. Results accepted based upon percent recovery results in duplicate QC sample and the CCV and CCB results.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Chain of Custody Record

Date: 3/21/19 Page: 1 Of 1
Project Name: El Monte Sewer Project
Collector: GM Client Project #: 20803001
Batch #: N/A T/90724 EDF #: N/A

[illegible]

Christine Hill

From: Spencer Marcinek [smarcinek@ninyoandmoore.com]
Sent: Friday, March 22, 2019 9:33 AM
To: Christine Hill
Cc: mike@sunstarlabs.com; gmottle@nonyoandmoore.com
Subject: RE: Work Order and Chain of Custody for El Monte Sewer Project (T190724)
Attachments: T190724_WKO_01.pdf

Good Morning Christine,

I noticed on the work order that you are running Title 22 Metals in accordance with EPA Method 6010B. However, we are just concerned about lead. Is it possible to just perform testing for lead instead on all of the samples?

Thanks,

Spencer Marcinek, PE, GE

Project Engineer

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

475 Goddard, Suite 200 | Irvine, CA 92618

(949) 753-7070 (x12226) | (949) 753-7071 (Fax) | (909) 543-9457 (Cell)

www.ninyoandmoore.com

30+ Years of Quality Service

From: Christine Hill [<mailto:christine@sunstarlabs.com>]
Sent: Friday, March 22, 2019 8:11 AM
To: Spencer Marcinek <smarcinek@ninyoandmoore.com>; gmottle@nonyoandmoore.com
Cc: mike@sunstarlabs.com
Subject: Work Order and Chain of Custody for El Monte Sewer Project (T190724)

Hello Spencer,

Attached is the work order confirmation and chain of custody received on: **3/21/19 @ 15:55**

Project: **El Monte Sewer Project**

Project Number: **210803001**

Please carefully review the work order to ensure the Analysis, Due Date, and Turn Around Time (TAT) are accurate.

Per the Chain of Custody, requested TAT is **5** business days.

Results will be sent by COB **3/28/19**

Thank you for choosing SunStar Laboratories.

Christine Hill

Project Manager Assistant



25712 Commercentre Dr., Lake Forest, CA 92630

Office: (949) 297-5020 | Fax: (949) 297-5027

CA ELAP Accreditation: 2250 | State of Nevada Accreditation: CA012842019-1

ISO/IEC 17025 Accreditation: AT-2642 | CA Small Business Certification: 31511

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SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #:

7190724

Client Name:

NINYO & MOORE

Project:

EL MONTE SEWER PROJECT

Delivered by:

☒ Client ☐ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by:

Date/Time Courier

Received:

Lab Received by:

DAN

Date/Time Lab

Received:

3-21-19 / 15:55

Total number of coolers received: 0

Temperature: Cooler #1 2.1 °C +/- the CF (1.2°C) = 3.3 °C corrected temperature

Temperature: Cooler #2 °C +/- the CF (1.2°C) = °C corrected temperature

Temperature: Cooler #3 °C +/- the CF (1.2°C) = °C corrected temperature

**Temperature criteria = ≤ 6°C
(no frozen containers)**

Within criteria?

☒ Yes ☐ No

IF NO:

Samples received on ice?

☐ Yes

☐ No →

Complete Non-Conformance Sheet

If on ice, samples received same day collected?

☐ Yes → Acceptable

☐ No →

Complete Non-Conformance Sheet

Custody seals intact on cooler/sample

☐ Yes ☐ No* ☒ N/A

Sample containers intact

☒ Yes ☐ No*

Sample labels match Chain of Custody IDs

☒ Yes ☐ No*

Total number of containers received match COC

☒ Yes ☐ No*

Proper containers received for analyses requested on COC

☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested

☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times

☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date:

SL 3-21-19

Comments:

WORK ORDER

T190724

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 03/28/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 03/21/19 15:55

Logged In By: Sunny Lounethone

Date Logged In: 03/21/19 16:24

Samples Received at: 3.3°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T190724-01 HA-1@6 [Soil] Sampled 03/21/19 09:20 (GMT-08:00) Pacific Time
(US &

6010 Title 22	03/28/19 15:00	5	09/17/19 09:20
8081 Pesticides	03/28/19 15:00	5	04/04/19 09:20

T190724-02 HA-2@6 [Soil] Sampled 03/21/19 10:10 (GMT-08:00) Pacific Time
(US &

6010 Title 22	03/28/19 15:00	5	09/17/19 10:10
8081 Pesticides	03/28/19 15:00	5	04/04/19 10:10

T190724-03 HA-3@6 [Soil] Sampled 03/21/19 10:52 (GMT-08:00) Pacific Time
(US &

6010 Title 22	03/28/19 15:00	5	09/17/19 10:52
8081 Pesticides	03/28/19 15:00	5	04/04/19 10:52

T190724-04 HA-4@6 [Soil] Sampled 03/21/19 11:55 (GMT-08:00) Pacific Time
(US &

6010 Title 22	03/28/19 15:00	5	09/17/19 11:55
8081 Pesticides	03/28/19 15:00	5	04/04/19 11:55

T190724-05 HA-5@6 [Soil] Sampled 03/21/19 12:50 (GMT-08:00) Pacific Time
(US &

6010 Title 22	03/28/19 15:00	5	09/17/19 12:50
8081 Pesticides	03/28/19 15:00	5	04/04/19 12:50

WORK ORDER

T190724

Client: Ninyo & Moore

Project Manager: Mike Jaroudi

Project: El Monte Sewer Project

Project Number: 210803001

Analysis groups included in this work order

6010 Title 22

subgroup 6010B T22

7470/71 Hg

WORK ORDER

T190724

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 03/28/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 03/21/19 15:55

Logged In By: Sunny Lounethone

Date Logged In: 03/21/19 16:24

Samples Received at: 3.3°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T190724-01 HA-1@6 [Soil] Sampled 03/21/19 09:20 (GMT-08:00) Pacific Time
(US &

6010 Pb	03/28/19 15:00	5	09/17/19 09:20
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8081 Pesticides	03/28/19 15:00	5	04/04/19 09:20
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T190724-02 HA-2@6 [Soil] Sampled 03/21/19 10:10 (GMT-08:00) Pacific Time
(US &

6010 Pb	03/28/19 15:00	5	09/17/19 10:10
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8081 Pesticides	03/28/19 15:00	5	04/04/19 10:10
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T190724-03 HA-3@6 [Soil] Sampled 03/21/19 10:52 (GMT-08:00) Pacific Time
(US &

6010 Pb	03/28/19 15:00	5	09/17/19 10:52
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8081 Pesticides	03/28/19 15:00	5	04/04/19 10:52
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T190724-04 HA-4@6 [Soil] Sampled 03/21/19 11:55 (GMT-08:00) Pacific Time
(US &

6010 Pb	03/28/19 15:00	5	09/17/19 11:55
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8081 Pesticides	03/28/19 15:00	5	04/04/19 11:55
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T190724-05 HA-5@6 [Soil] Sampled 03/21/19 12:50 (GMT-08:00) Pacific Time
(US &

6010 Pb	03/28/19 15:00	5	09/17/19 12:50
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8081 Pesticides	03/28/19 15:00	5	04/04/19 12:50
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

01 July 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 06/21/19 17:33. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1@2.5	T192093-01	Soil	06/21/19 09:30	06/21/19 17:33
HA-2@2.5	T192093-02	Soil	06/21/19 10:15	06/21/19 17:33
HA-3@2.5	T192093-03	Soil	06/21/19 11:00	06/21/19 17:33
HA-4@2.5	T192093-04	Soil	06/21/19 12:00	06/21/19 17:33
HA-5@2.5	T192093-05	Soil	06/21/19 12:55	06/21/19 17:33

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

DETECTIONS SUMMARY

Sample ID: HA-1@2.5

Laboratory ID: T192093-01

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	2.9	2.7	mg/kg	EPA 6010b	

Sample ID: HA-2@2.5

Laboratory ID: T192093-02

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	5.8	3.0	mg/kg	EPA 6010b	

Sample ID: HA-3@2.5

Laboratory ID: T192093-03

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	5.6	3.0	mg/kg	EPA 6010b	

Sample ID: HA-4@2.5

Laboratory ID: T192093-04

No Results Detected

Sample ID: HA-5@2.5

Laboratory ID: T192093-05

No Results Detected

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

HA-1@2.5
T192093-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	2.9	2.7	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

HA-2@2.5
T192093-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	5.8	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

HA-3@2.5
T192093-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	5.6	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

HA-4@2.5
T192093-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	ND	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

HA-5@2.5
T192093-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	ND	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9062439 - EPA 3050B

Blank (9062439-BLK1)

Prepared: 06/24/19 Analyzed: 06/25/19

Lead	ND	3.0	mg/kg							
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LCS (9062439-BS1)

Prepared: 06/24/19 Analyzed: 06/25/19

Lead	83.0	3.0	mg/kg	100		83.0	75-125			
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Matrix Spike (9062439-MS1)

Source: T192081-01

Prepared: 06/24/19 Analyzed: 06/25/19

Lead	97.0	3.0	mg/kg	99.0	4.06	93.9	75-125			
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Matrix Spike Dup (9062439-MSD1)

Source: T192081-01

Prepared: 06/24/19 Analyzed: 06/25/19

Lead	89.8	3.0	mg/kg	93.5	4.06	91.7	75-125	7.81	20	
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SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/01/19 09:24

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commerce Centre Dr
Lake Forest, CA 92630
949-297-5020

Client: Ninyo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 6/21/2019 Page: 1 of 1
Project Name: El Monte Sewer Project
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: 7192093 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 - Title 22 Metals (Lead Only)	Laboratory ID #	Comments/Preservative	Total # of containers
HA-1 @ 2.5'	3/21/2019	9:30 AM	Soil	8oz Glass Jar										01	3041 Lexington Avenue, El Monte, CA	1
HA-2 @ 2.5'	3/21/2019	10:15 AM	Soil	8oz Glass Jar										02	3062 Washington Avenue, El Monte, CA	1
HA-3 @ 2.5'	3/21/2019	11:00 AM	Soil	8oz Glass Jar										03	3137 Nevada Avenue, El Monte, CA	1
HA-4 @ 2.5'	3/21/2019	12:00 PM	Soil	8oz Glass Jar										04	3027 Gage Avenue, El Monte, CA	1
HA-5 @ 2.5'	3/21/2019	12:55 PM	Soil	8oz Glass Jar										05	3107 Granada Avenue, El Monte, CA	1
<div> <div>Relinquished by: (signature) <u>Paul Flannery</u> Date / Time <u>6/21/2019 @ 15:50</u></div> <div>Received by: (signature) <u>Paul Flannery</u> Date / Time <u>6/21/2019 @ 15:50</u></div> </div> <div> <div>Relinquished by: (signature) <u>Paul Flannery</u> Date / Time <u>6-21-19 17:33</u></div> <div>Received by: (signature) <u>Paul Flannery</u> Date / Time <u>6-21-19 17:33</u></div> </div> <div> <div>Relinquished by: (signature) _____ Date / Time _____</div> <div>Received by: (signature) _____ Date / Time _____</div> </div>																
Total # of containers <u>5</u> Seals intact? Y/N/NA <u>NA</u> Received good condition/cold <u>3.9</u>														Turn around time: <u>Standard</u> Preserved on ice/refrigerator		

Sample disposal instructions: Disposal @ \$2.00 each _____

Return to client _____

Pickup _____

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #:

7192093

Client Name:

NINYO & MOORE

Project:

EL MONTE SEWER PROJECT

Delivered by:

☐ Client

☒ SunStar Courier

☐ GSO

☐ FedEx

☐ Other

If Courier, Received by:

PAUL

Date/Time Courier

Received:

6-21-19 / 15:50

Lab Received by:

TRAVIS

Date/Time Lab

Received:

6-21-19 / 17:35

Total number of coolers received: 0

Temperature: Cooler #1 <u>2.7</u>	°C +/- the CF (1.2°C) = <u>3.9</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (1.2°C) =	°C corrected temperature

**Temperature criteria = ≤ 6°C
(no frozen containers)**

Within criteria?

☒ Yes

☐ No

If NO:

Samples received on ice?

☐ Yes

☐ No →

Complete Non-Conformance Sheet

If on ice, samples received same day collected?

☐ Yes → Acceptable

☐ No →

Complete Non-Conformance Sheet

Custody seals intact on cooler/sample

☐ Yes

☐ No*

☒ N/A

Sample containers intact

☒ Yes

☐ No*

Sample labels match Chain of Custody IDs

☒ Yes

☐ No*

Total number of containers received match COC

☒ Yes

☐ No*

Proper containers received for analyses requested on COC

☒ Yes

☐ No*

Proper preservative indicated on COC/containers for analyses requested

☐ Yes

☐ No*

☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times

☒ Yes

☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date:

SL 6-22-19

Comments:

WORK ORDER

T192093

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/01/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 06/21/19 17:33

Logged In By: Sunny Lounethone

Date Logged In: 06/22/19 10:17

Samples Received at: 3.9°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192093-01 HA-1@2.5 [Soil] Sampled 06/21/19 09:30 (GMT-08:00) Pacific Time

(US &

6010 Pb	07/01/19 15:00	5	12/18/19 09:30
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T192093-02 HA-2@2.5 [Soil] Sampled 06/21/19 10:15 (GMT-08:00) Pacific Time

(US &

6010 Pb	07/01/19 15:00	5	12/18/19 10:15
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T192093-03 HA-3@2.5 [Soil] Sampled 06/21/19 11:00 (GMT-08:00) Pacific Time

(US &

6010 Pb	07/01/19 15:00	5	12/18/19 11:00
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T192093-04 HA-4@2.5 [Soil] Sampled 06/21/19 12:00 (GMT-08:00) Pacific Time

(US &

6010 Pb	07/01/19 15:00	5	12/18/19 12:00
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T192093-05 HA-5@2.5 [Soil] Sampled 06/21/19 12:55 (GMT-08:00) Pacific Time

(US &

6010 Pb	07/01/19 15:00	5	12/18/19 12:55
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

26 July 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 07/18/19 16:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS #6 @ 0.5'	T192421-01	Soil	07/18/19 09:12	07/18/19 16:44
SS #7 @ 0.5'	T192421-02	Soil	07/18/19 10:03	07/18/19 16:44
SS #8 @ 0.5'	T192421-03	Soil	07/18/19 10:31	07/18/19 16:44
SS #9 @ 0.5'	T192421-04	Soil	07/18/19 11:58	07/18/19 16:44
SS #10 @ 0.5'	T192421-05	Soil	07/18/19 11:24	07/18/19 16:44
SS #1 @ 0.5'	T192421-06	Soil	07/18/19 12:25	07/18/19 16:44
SS #2 @ 0.5'	T192421-07	Soil	07/18/19 12:34	07/18/19 16:44
SS #3 @ 0.5'	T192421-08	Soil	07/18/19 12:43	07/18/19 16:44
SS #4 @ 0.5'	T192421-09	Soil	07/18/19 12:52	07/18/19 16:44

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

DETECTIONS SUMMARY

Sample ID: SS #6 @ 0.5'		Laboratory ID: T192421-01			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	290	3.0	mg/kg	EPA 6010b	
Sample ID: SS #7 @ 0.5'		Laboratory ID: T192421-02			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	28	3.0	mg/kg	EPA 6010b	
Sample ID: SS #8 @ 0.5'		Laboratory ID: T192421-03			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	130	3.0	mg/kg	EPA 6010b	
Sample ID: SS #9 @ 0.5'		Laboratory ID: T192421-04			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	110	3.0	mg/kg	EPA 6010b	
Sample ID: SS #10 @ 0.5'		Laboratory ID: T192421-05			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	97	3.0	mg/kg	EPA 6010b	
Sample ID: SS #1 @ 0.5'		Laboratory ID: T192421-06			
Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	75	3.0	mg/kg	EPA 6010b	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

Sample ID: SS #2 @ 0.5'

Laboratory ID: T192421-07

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	130	3.0	mg/kg	EPA 6010b	

Sample ID: SS #3 @ 0.5'

Laboratory ID: T192421-08

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	180	3.0	mg/kg	EPA 6010b	

Sample ID: SS #4 @ 0.5'

Laboratory ID: T192421-09

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	120	2.7	mg/kg	EPA 6010b	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #6 @ 0.5'
T192421-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	290	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #7 @ 0.5'
T192421-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	28	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #8 @ 0.5'
T192421-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	130	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #9 @ 0.5'
T192421-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	110	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #10 @ 0.5'
T192421-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	97	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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949.297.5020 Phone
949.297.5027 Fax

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475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #1 @ 0.5'
T192421-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	75	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #2 @ 0.5'
T192421-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	130	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #3 @ 0.5'
T192421-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	180	3.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

SS #4 @ 0.5'
T192421-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	120	2.7	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
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Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9071904 - EPA 3050B

Blank (9071904-BLK1)

Prepared & Analyzed: 07/19/19

Lead	ND	3.0	mg/kg
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LCS (9071904-BS1)

Prepared & Analyzed: 07/19/19

Lead	107	3.0	mg/kg	100	107	75-125
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Matrix Spike (9071904-MS1)

Source: T192404-13

Prepared & Analyzed: 07/19/19

Lead	143	3.0	mg/kg	96.2	30.7	117	75-125
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Matrix Spike Dup (9071904-MSD1)

Source: T192404-13

Prepared & Analyzed: 07/19/19

Lead	163	3.0	mg/kg	93.5	30.7	141	75-125	12.8	20	QM-05
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
07/26/19 08:53

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commerce Centre Dr
Lake Forest, CA 92630
949-297-5020

Client: Ninjo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 7/18/2019 Page: 1 Of 1
Project Name: El Monte Sewer
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: T192421 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead Only	Laboratory ID #	Comments/Preservative	Total # of containers
SS #6 @ 0.5'	7/18/2019	9:12 AM	Soil	4oz Glass Jar											01	3028 Granada Ave, El Monte, CA	1
SS #7 @ 0.5'	7/18/2019	10:03 AM	Soil	4oz Glass Jar											02	3113 Gage Avenue, El Monte, CA	1
SS #8 @ 0.5'	7/18/2019	10:31 AM	Soil	4oz Glass Jar											03	3024 Lexington Ave, El Monte, CA	1
SS #9 @ 0.5'	7/18/2019	11:58 AM	Soil	4oz Glass Jar											04	3024 Washington Ave, El Monte, CA	1
SS #10 @ 0.5'	7/18/2019	11:24 AM	Soil	4oz Glass Jar											05	3037 Nevada Ave, El Monte, CA	1
SS #1 @ 0.5'	7/18/2019	12:25 PM	Soil	4oz Glass Jar											06	3187 Nevada Ave, El Monte, CA	1
SS #2 @ 0.5'	7/18/2019	12:34 PM	Soil	4oz Glass Jar											07	3032 Washington Ave, El Monte, CA	1
SS #3 @ 0.5'	7/18/2019	12:43 PM	Soil	4oz Glass Jar											08	3041 Lexington Ave, El Monte, CA	1
SS #4 @ 0.5'	7/18/2019	12:52 PM	Soil	4oz Glass Jar											09	3027 Gage Avenue, El Monte, CA	1
<div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u></div> <div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u></div> <div>Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____</div>																	
Sample disposal instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____																	
Turn around time: <u>Standard</u>																	
Total # of containers <u>9</u> Notes <u>Preserved on ice</u>																	

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192421

Client Name: Ninyo & Moore Project: El Monte Sewer

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: Paul Date/Time Courier Received: 7-18-19 16:18

Lab Received by: Travis Date/Time Lab Received: 7-18-19 16:44

Total number of coolers received: 0 Thermometer ID: SC-1 Calibration Due: 6/27/20

Temperature:	Cooler #1	2.7	°C +/- the CF (+ 1.2°C) =	3.9	°C corrected temperature
Temperature:	Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature:	Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)			Within criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If NO:					
Samples received on ice?			<input type="checkbox"/> Yes		<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?			<input type="checkbox"/> Yes → Acceptable		<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: DM 7-18-19

Comments:

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/26/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 07/18/19 16:44

Logged In By: Dan Marteski

Date Logged In: 07/18/19 17:26

Samples Received at: 3.9°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confirmed No

Analysis	Due	TAT	Expires	Comments
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T192421-01 SS #6 @ 0.5' [Soil] Sampled 07/18/19 09:12 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 09:12
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T192421-02 SS #7 @ 0.5' [Soil] Sampled 07/18/19 10:03 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:03
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T192421-03 SS #8 @ 0.5' [Soil] Sampled 07/18/19 10:31 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:31
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T192421-04 SS #9 @ 0.5' [Soil] Sampled 07/18/19 11:58 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:58
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T192421-05 SS #10 @ 0.5' [Soil] Sampled 07/18/19 11:24 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:24
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T192421-06 SS #1 @ 0.5' [Soil] Sampled 07/18/19 12:25 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:25
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T192421-07 SS #2 @ 0.5' [Soil] Sampled 07/18/19 12:34 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:34
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WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-08 SS #3 @ 0.5' [Soil] Sampled 07/18/19 12:43 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:43	
T192421-09 SS #4 @ 0.5' [Soil] Sampled 07/18/19 12:52 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:52	



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

06 August 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 07/18/19 16:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS #6 @ 0.5'	T192421-01	Soil	07/18/19 09:12	07/18/19 16:44
SS #8 @ 0.5'	T192421-03	Soil	07/18/19 10:31	07/18/19 16:44
SS #9 @ 0.5'	T192421-04	Soil	07/18/19 11:58	07/18/19 16:44
SS #10 @ 0.5'	T192421-05	Soil	07/18/19 11:24	07/18/19 16:44
SS #1 @ 0.5'	T192421-06	Soil	07/18/19 12:25	07/18/19 16:44
SS #2 @ 0.5'	T192421-07	Soil	07/18/19 12:34	07/18/19 16:44
SS #3 @ 0.5'	T192421-08	Soil	07/18/19 12:43	07/18/19 16:44
SS #4 @ 0.5'	T192421-09	Soil	07/18/19 12:52	07/18/19 16:44

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

DETECTIONS SUMMARY

Sample ID: SS #6 @ 0.5'

Laboratory ID: T192421-01

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	16	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #8 @ 0.5'

Laboratory ID: T192421-03

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.5	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #9 @ 0.5'

Laboratory ID: T192421-04

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	3.2	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #10 @ 0.5'

Laboratory ID: T192421-05

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	2.7	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #1 @ 0.5'

Laboratory ID: T192421-06

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.7	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #2 @ 0.5'

Laboratory ID: T192421-07

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.1	0.50	mg/l	STLC Waste Extraction I	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

Sample ID: SS #3 @ 0.5'

Laboratory ID: T192421-08

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	10	0.50	mg/l	STLC Waste Extraction I	

Sample ID: SS #4 @ 0.5'

Laboratory ID: T192421-09

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	7.0	0.50	mg/l	STLC Waste Extraction I	

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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #6 @ 0.5'
T192421-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311	
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STLC Metals by 6000/7000 Series Methods

Lead	16	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test	
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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #8 @ 0.5'
T192421-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311
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STLC Metals by 6000/7000 Series Methods

Lead	4.5	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test
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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #9 @ 0.5'
T192421-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311
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STLC Metals by 6000/7000 Series Methods

Lead	3.2	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test
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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #10 @ 0.5'
T192421-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Lead	2.7	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test	
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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #1 @ 0.5'
T192421-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

STLC Metals by 6000/7000 Series Methods

Lead	4.7	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test	
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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #2 @ 0.5'
T192421-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311	
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STLC Metals by 6000/7000 Series Methods

Lead	4.1	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test	
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949.297.5020 Phone
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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #3 @ 0.5'
T192421-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311
------	----	------	------	---	---------	----------	----------	----------

STLC Metals by 6000/7000 Series Methods

Lead	10	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test
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Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

SS #4 @ 0.5'
T192421-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

TCLP Metals by 6000/7000 Series Methods

Lead	ND	0.10	mg/l	1	9080103	08/01/19	08/02/19	EPA 1311
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STLC Metals by 6000/7000 Series Methods

Lead	7.0	0.50	mg/l	1	9080101	08/01/19	08/05/19	STLC Waste Extraction Test
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475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

TCLP Metals by 6000/7000 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9080103 - TCLP Metals

Blank (9080103-BLK1)

Prepared: 08/01/19 Analyzed: 08/02/19

Lead	ND	0.10	mg/l
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LCS (9080103-BS1)

Prepared: 08/01/19 Analyzed: 08/02/19

Lead	0.482	0.10	mg/l	0.500	96.4	75-125
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Matrix Spike (9080103-MS1)

Source: T192377-02

Prepared: 08/01/19 Analyzed: 08/02/19

Lead	0.463	0.10	mg/l	0.500	0.00728	91.1	75-125
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Matrix Spike Dup (9080103-MSD1)

Source: T192377-02

Prepared: 08/01/19 Analyzed: 08/02/19

Lead	0.457	0.10	mg/l	0.500	0.00728	90.0	75-125	1.23	30
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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

STLC Metals by 6000/7000 Series Methods - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9080101 - STLC Metals

Blank (9080101-BLK1)

Prepared: 08/01/19 Analyzed: 08/05/19

Lead	ND	0.50	mg/l							
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LCS (9080101-BS1)

Prepared: 08/01/19 Analyzed: 08/05/19

Lead	8.66	0.50	mg/l	10.0		86.6	75-125			
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Matrix Spike (9080101-MS1)

Source: T192377-02

Prepared: 08/01/19 Analyzed: 08/05/19

Lead	8.74	0.50	mg/l	10.0	0.741	80.0	75-125			
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Matrix Spike Dup (9080101-MSD1)

Source: T192377-02

Prepared: 08/01/19 Analyzed: 08/05/19

Lead	9.56	0.50	mg/l	10.0	0.741	88.2	75-125	8.89	30	
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475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/06/19 14:07

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commerce Centre Dr
Lake Forest, CA 92630
949-297-5020

Client: Ninjo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 7/18/2019 Page: 1 Of 1
Project Name: El Monte Sewer
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: T192421 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead Only	Laboratory ID #	Comments/Preservative	Total # of containers
SS #6 @ 0.5'	7/18/2019	9:12 AM	Soil	4oz Glass Jar											01	3028 Granada Ave, El Monte, CA	1
SS #7 @ 0.5'	7/18/2019	10:03 AM	Soil	4oz Glass Jar											02	3113 Gage Avenue, El Monte, CA	1
SS #8 @ 0.5'	7/18/2019	10:31 AM	Soil	4oz Glass Jar											03	3024 Lexington Ave, El Monte, CA	1
SS #9 @ 0.5'	7/18/2019	11:58 AM	Soil	4oz Glass Jar											04	3024 Washington Ave, El Monte, CA	1
SS #10 @ 0.5'	7/18/2019	11:24 AM	Soil	4oz Glass Jar											05	3037 Nevada Ave, El Monte, CA	1
SS #1 @ 0.5'	7/18/2019	12:25 PM	Soil	4oz Glass Jar											06	3187 Nevada Ave, El Monte, CA	1
SS #2 @ 0.5'	7/18/2019	12:34 PM	Soil	4oz Glass Jar											07	3032 Washington Ave, El Monte, CA	1
SS #3 @ 0.5'	7/18/2019	12:43 PM	Soil	4oz Glass Jar											08	3041 Lexington Ave, El Monte, CA	1
SS #4 @ 0.5'	7/18/2019	12:52 PM	Soil	4oz Glass Jar											09	3027 Gage Avenue, El Monte, CA	1
<div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u></div> <div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u></div> <div>Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____</div>																	
<div>Total # of containers: <u>9</u></div> <div>Chain of Custody seals: <u>Y/N/A</u></div> <div>Seals intact? <u>Y/N/A</u></div> <div>Received good condition/cold: <u>3.90</u></div> <div>Notes: <u>Preserved on ice</u></div>																	

Sample disposal instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

Turn around time: Standard

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192421

Client Name: Ninyo & Moore Project: El Monte Sewer

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: Paul Date/Time Courier Received: 7-18-19 16:18

Lab Received by: Travis Date/Time Lab Received: 7-18-19 16:44

Total number of coolers received: 0 Thermometer ID: SC-1 Calibration Due: 6/27/20

Temperature:	Cooler #1	2.7	°C +/- the CF (+ 1.2°C) =	3.9	°C corrected temperature
Temperature:	Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature:	Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)			Within criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If NO:					
Samples received on ice?			<input type="checkbox"/> Yes		<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?			<input type="checkbox"/> Yes → Acceptable		<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: DM 7-18-19

Comments:

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/26/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 07/18/19 16:44

Logged In By: Dan Marteski

Date Logged In: 07/18/19 17:26

Samples Received at: 3.9°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192421-01 SS #6 @ 0.5' [Soil] Sampled 07/18/19 09:12 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 09:12
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T192421-02 SS #7 @ 0.5' [Soil] Sampled 07/18/19 10:03 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:03
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T192421-03 SS #8 @ 0.5' [Soil] Sampled 07/18/19 10:31 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:31
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T192421-04 SS #9 @ 0.5' [Soil] Sampled 07/18/19 11:58 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:58
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T192421-05 SS #10 @ 0.5' [Soil] Sampled 07/18/19 11:24 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:24
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T192421-06 SS #1 @ 0.5' [Soil] Sampled 07/18/19 12:25 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:25
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T192421-07 SS #2 @ 0.5' [Soil] Sampled 07/18/19 12:34 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:34
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WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-08 SS #3 @ 0.5' [Soil] Sampled 07/18/19 12:43 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:43	
T192421-09 SS #4 @ 0.5' [Soil] Sampled 07/18/19 12:52 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:52	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/26/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 07/18/19 16:44

Logged In By: Dan Marteski

Date Logged In: 07/18/19 17:26

Samples Received at: **3.9°C**

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192421-01 SS #6 @ 0.5' [Soil] Sampled 07/18/19 09:12 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 09:12	
STLC Pb	08/06/19 15:00	5	01/14/20 09:12	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 09:12	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 09:12	
TCLP Pb	08/06/19 15:00	5	01/14/20 09:12	

T192421-02 SS #7 @ 0.5' [Soil] Sampled 07/18/19 10:03 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:03	
---------	----------------	---	----------------	--

T192421-03 SS #8 @ 0.5' [Soil] Sampled 07/18/19 10:31 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:31	
STLC Pb	08/06/19 15:00	5	01/14/20 10:31	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 10:31	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 10:31	
TCLP Pb	08/06/19 15:00	5	01/14/20 10:31	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-04 SS #9 @ 0.5' [Soil] Sampled 07/18/19 11:58 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 11:58	
STLC Pb	08/06/19 15:00	5	01/14/20 11:58	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:58	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:58	
TCLP Pb	08/06/19 15:00	5	01/14/20 11:58	
T192421-05 SS #10 @ 0.5' [Soil] Sampled 07/18/19 11:24 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 11:24	
STLC Pb	08/06/19 15:00	5	01/14/20 11:24	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:24	
T192421-06 SS #1 @ 0.5' [Soil] Sampled 07/18/19 12:25 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:25	
STLC Pb	08/06/19 15:00	5	01/14/20 12:25	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:25	
T192421-07 SS #2 @ 0.5' [Soil] Sampled 07/18/19 12:34 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:34	
STLC Pb	08/06/19 15:00	5	01/14/20 12:34	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:34	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:34	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:34	
T192421-08 SS #3 @ 0.5' [Soil] Sampled 07/18/19 12:43 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:43	
STLC Pb	08/06/19 15:00	5	01/14/20 12:43	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:43	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:43	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:43	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-09 SS #4 @ 0.5' [Soil] Sampled 07/18/19 12:52 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:52	
STLC Pb	08/06/19 15:00	5	01/14/20 12:52	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:52	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:52	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:52	



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

07 August 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 07/30/19 16:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS#6 @2.5'	T192607-01	Soil	07/18/19 09:25	07/30/19 16:44
SS#8 @2.5'	T192607-02	Soil	07/18/19 10:38	07/30/19 16:44
SS#9 @2.5'	T192607-03	Soil	07/18/19 12:03	07/30/19 16:44
SS#10 @2.5'	T192607-04	Soil	07/18/19 11:31	07/30/19 16:44

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

DETECTIONS SUMMARY

Sample ID: SS#6 @2.5'

Laboratory ID: T192607-01

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.4	3.0	mg/kg	EPA 6010b	

Sample ID: SS#8 @2.5'

Laboratory ID: T192607-02

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	3.2	3.0	mg/kg	EPA 6010b	

Sample ID: SS#9 @2.5'

Laboratory ID: T192607-03

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.8	3.0	mg/kg	EPA 6010b	

Sample ID: SS#10 @2.5'

Laboratory ID: T192607-04

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	9.6	3.0	mg/kg	EPA 6010b	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

SS#6 @2.5'
T192607-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	4.4	3.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

SS#8 @2.5'
T192607-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	3.2	3.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

SS#9 @2.5'
T192607-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	4.8	3.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

SS#10 @2.5'
T192607-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	9.6	3.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9073111 - EPA 3050B

Blank (9073111-BLK1)

Prepared: 07/31/19 Analyzed: 08/02/19

Lead	ND	3.0	mg/kg							
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LCS (9073111-BS1)

Prepared: 07/31/19 Analyzed: 08/02/19

Lead	99.2	3.0	mg/kg	100		99.2	75-125			
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Matrix Spike (9073111-MS1)

Source: T192545-03

Prepared: 07/31/19 Analyzed: 08/02/19

Lead	76.8	3.0	mg/kg	95.2	5.13	75.3	75-125			
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Matrix Spike Dup (9073111-MSD1)

Source: T192545-03

Prepared: 07/31/19 Analyzed: 08/02/19

Lead	81.7	3.0	mg/kg	97.1	5.13	78.9	75-125	6.14	20	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
08/07/19 10:27

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Chain of Custody Record

10/2/02

Date: 7/18/2019 Page: 1 Of 1
Project Name: El Monte Sewer
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: 7192607 EDF #: _____

Page: 1 Of 1

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals <i>Lead Only</i>	Laboratory ID #	Comments/Preservative	Total # of containers	
SS# 6 @ 2.5'	7/18/2019	9:25 AM	Soil	4oz Glass Jar										01	3028 Fremont Ave, El Monte, CA	1	
SS# 8 @ 2.5'	7/18/2019	10:38 AM	Soil	4oz Glass Jar										02	3028 Fremont Ave, El Monte, CA	1	
SS# 9 @ 2.5'	7/18/2019	12:53 PM	Soil	4oz Glass Jar										03	3104 Washington Ave, El Monte, CA	1	
SS# 10 @ 2.5'	7/18/2019	11:31 AM	Soil	4oz Glass Jar										04	3037 Nevada Ave, El Monte, CA	1	
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Total # of containers	4	Notes											
Relinquished by: (signature)	7/30/19 16:15	Received by: (signature)	7/30/19 16:15	Chain of Custody seals Y/N/A	N	Preserved on ice / Refrigerator											
Relinquished by: (signature)	7-30-19 16:44	Received by: (signature)	7-30-19 16:44	Seals intact? Y/N/A	N/A												
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time	Received good condition/cold	25C												
Turn around time: Standard																	

Pickup _____

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192607

Client Name: Ningob & Monre Project: El Monte Sewer

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: Travis Date/Time Courier Received: 7-30-19

Lab Received by: Sunny Date/Time Lab Received: 7-30-19

Total number of coolers received: _____ Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature: Cooler #1	°C +/- the CF (+ 1.2°C) = <u>2.5</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)		
Within criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If NO:		
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: TB 7-30-19

Comments:

WORK ORDER

T192607

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 08/07/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 07/30/19 16:44

Logged In By: Travis Berner

Date Logged In: 07/30/19 17:47

Samples Received at: 2.5°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192607-01 SS#6 @2.5' [Soil] Sampled 07/18/19 09:25 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 09:25
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T192607-02 SS#8 @2.5' [Soil] Sampled 07/18/19 10:38 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 10:38
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T192607-03 SS#9 @2.5' [Soil] Sampled 07/18/19 12:03 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 12:03
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T192607-04 SS#10 @2.5' [Soil] Sampled 07/18/19 11:31 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 11:31
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

27 September 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 07/18/19 16:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS #6 @ 0.5'	T192421-01	Soil	07/18/19 09:12	07/18/19 16:44
SS #7 @ 0.5'	T192421-02	Soil	07/18/19 10:03	07/18/19 16:44
SS #8 @ 0.5'	T192421-03	Soil	07/18/19 10:31	07/18/19 16:44
SS #9 @ 0.5'	T192421-04	Soil	07/18/19 11:58	07/18/19 16:44
SS #10 @ 0.5'	T192421-05	Soil	07/18/19 11:24	07/18/19 16:44
SS #1 @ 0.5'	T192421-06	Soil	07/18/19 12:25	07/18/19 16:44
SS #2 @ 0.5'	T192421-07	Soil	07/18/19 12:34	07/18/19 16:44
SS #3 @ 0.5'	T192421-08	Soil	07/18/19 12:43	07/18/19 16:44
SS #4 @ 0.5'	T192421-09	Soil	07/18/19 12:52	07/18/19 16:44

SunStar Laboratories, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

DETECTIONS SUMMARY

Sample ID: SS #6 @ 0.5'

Laboratory ID: T192421-01

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	290	3.0	mg/kg	EPA 6010b	

Sample ID: SS #7 @ 0.5'

Laboratory ID: T192421-02

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Lead	28	3.0	mg/kg	EPA 6010b	

Sample ID: SS #8 @ 0.5'

Laboratory ID: T192421-03

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	11	5.0	mg/kg	EPA 6010b	
Lead	130	3.0	mg/kg	EPA 6010b	

Sample ID: SS #9 @ 0.5'

Laboratory ID: T192421-04

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	8.0	5.0	mg/kg	EPA 6010b	
Lead	110	3.0	mg/kg	EPA 6010b	

Sample ID: SS #10 @ 0.5'

Laboratory ID: T192421-05

Analyte	Reporting		Units	Method	Notes
	Result	Limit			
Arsenic	7.7	5.0	mg/kg	EPA 6010b	
Lead	97	3.0	mg/kg	EPA 6010b	

Sample ID: SS #1 @ 0.5'

Laboratory ID: T192421-06

Analyte	Reporting		Units	Method	Notes
	Result	Limit			

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

Sample ID: SS #1 @ 0.5'

Laboratory ID: T192421-06

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Arsenic	11	5.0		mg/kg	EPA 6010b	
Lead	75	3.0		mg/kg	EPA 6010b	

Sample ID: SS #2 @ 0.5'

Laboratory ID: T192421-07

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Arsenic	15	5.0		mg/kg	EPA 6010b	
Lead	130	3.0		mg/kg	EPA 6010b	

Sample ID: SS #3 @ 0.5'

Laboratory ID: T192421-08

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Arsenic	15	5.0		mg/kg	EPA 6010b	
Lead	180	3.0		mg/kg	EPA 6010b	

Sample ID: SS #4 @ 0.5'

Laboratory ID: T192421-09

Analyte	Result	Reporting		Units	Method	Notes
		Limit				
Lead	120	2.7		mg/kg	EPA 6010b	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #6 @ 0.5'
T192421-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	290	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #7 @ 0.5'
T192421-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	28	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #8 @ 0.5'
T192421-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	11	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	130	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #9 @ 0.5'
T192421-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	8.0	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	110	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #10 @ 0.5'
T192421-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	7.7	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	97	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #1 @ 0.5'
T192421-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	11	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	75	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #2 @ 0.5'
T192421-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	15	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	130	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #3 @ 0.5'
T192421-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	15	5.0	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	180	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

SS #4 @ 0.5'
T192421-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	4.5	mg/kg	1	9071904	07/19/19	07/19/19	EPA 6010b	
Lead	120	2.7	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9071904 - EPA 3050B

Blank (9071904-BLK1)

Prepared & Analyzed: 07/19/19

Arsenic	ND	5.0	mg/kg							
Lead	ND	3.0	"							

LCS (9071904-BS1)

Prepared & Analyzed: 07/19/19

Arsenic	106	5.0	mg/kg	100		106	75-125			
Lead	107	3.0	"	100		107	75-125			

Matrix Spike (9071904-MS1)

Source: T192404-13

Prepared & Analyzed: 07/19/19

Arsenic	116	5.0	mg/kg	96.2	ND	121	75-125			
Lead	143	3.0	"	96.2	30.7	117	75-125			

Matrix Spike Dup (9071904-MSD1)

Source: T192404-13

Prepared & Analyzed: 07/19/19

Arsenic	110	5.0	mg/kg	93.5	ND	118	75-125	5.52	20	QM-05
Lead	163	3.0	"	93.5	30.7	141	75-125	12.8	20	QM-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:06

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commerce Centre Dr
Lake Forest, CA 92630
949-297-5020

Client: Ninyo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 7/18/2019 Page: 1 Of 1
Project Name: El Monte Sewer
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: T192421 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	Lead Only	Laboratory ID #	Comments/Preservative	Total # of containers
SS #6 @ 0.5'	7/18/2019	9:12 AM	Soil	4oz Glass Jar											01	3028 Granada Ave, El Monte, CA	1
SS #7 @ 0.5'	7/18/2019	10:03 AM	Soil	4oz Glass Jar											02	3113 Gage Avenue, El Monte, CA	1
SS #8 @ 0.5'	7/18/2019	10:31 AM	Soil	4oz Glass Jar											03	3024 Lexington Ave, El Monte, CA	1
SS #9 @ 0.5'	7/18/2019	11:58 AM	Soil	4oz Glass Jar											04	3024 Washington Ave, El Monte, CA	1
SS #10 @ 0.5'	7/18/2019	11:24 AM	Soil	4oz Glass Jar											05	3037 Nevada Ave, El Monte, CA	1
SS #11 @ 0.5'	7/18/2019	12:25 PM	Soil	4oz Glass Jar											06	3187 Nevada Ave, El Monte, CA	1
SS #12 @ 0.5'	7/18/2019	12:34 PM	Soil	4oz Glass Jar											07	3032 Washington Ave, El Monte, CA	1
SS #13 @ 0.5'	7/18/2019	12:43 PM	Soil	4oz Glass Jar											08	3041 Lexington Ave, El Monte, CA	1
SS #14 @ 0.5'	7/18/2019	12:52 PM	Soil	4oz Glass Jar											09	3027 Gage Avenue, El Monte, CA	1
<div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 4:18 PM</u></div> <div>Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-18-19 / 16:44</u></div> <div>Relinquished by: (signature) _____ Date / Time _____ Received by: (signature) _____ Date / Time _____</div>																	
<div>Total # of containers: <u>9</u></div> <div>Chain of Custody seals: <u>Y/N/A</u></div> <div>Seals intact? <u>Y/N/A</u></div> <div>Received good condition/cold: <u>3.9°C</u></div> <div>Notes: <u>Preserved on ice</u></div>																	

Sample disposal instructions: Disposal @ \$2.00 each _____

Return to client _____

Pickup _____

Turn around time: Standard

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192421

Client Name: Ninyo & Moore Project: El Monte Sewer

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: Paul Date/Time Courier Received: 7-18-19 16:18

Lab Received by: Travis Date/Time Lab Received: 7-18-19 16:44

Total number of coolers received: 0 Thermometer ID: SC-1 Calibration Due: 6/27/20

Temperature:	Cooler #1	2.7	°C +/- the CF (+ 1.2°C) =	3.9	°C corrected temperature
Temperature:	Cooler #2		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature:	Cooler #3		°C +/- the CF (+ 1.2°C) =		°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)			Within criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If NO:					
Samples received on ice?			<input type="checkbox"/> Yes		<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?			<input type="checkbox"/> Yes → Acceptable		<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date: DM 7-18-19

Comments:

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/26/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 07/18/19 16:44

Logged In By: Dan Marteski

Date Logged In: 07/18/19 17:26

Samples Received at: 3.9°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192421-01 SS #6 @ 0.5' [Soil] Sampled 07/18/19 09:12 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 09:12
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T192421-02 SS #7 @ 0.5' [Soil] Sampled 07/18/19 10:03 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:03
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T192421-03 SS #8 @ 0.5' [Soil] Sampled 07/18/19 10:31 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:31
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T192421-04 SS #9 @ 0.5' [Soil] Sampled 07/18/19 11:58 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:58
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T192421-05 SS #10 @ 0.5' [Soil] Sampled 07/18/19 11:24 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 11:24
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T192421-06 SS #1 @ 0.5' [Soil] Sampled 07/18/19 12:25 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:25
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T192421-07 SS #2 @ 0.5' [Soil] Sampled 07/18/19 12:34 (GMT-08:00) Pacific

Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 12:34
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WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-08 SS #3 @ 0.5' [Soil] Sampled 07/18/19 12:43 (GMT-08:00) Pacific				
6010 Pb	07/26/19 15:00	5	01/14/20 12:43	
T192421-09 SS #4 @ 0.5' [Soil] Sampled 07/18/19 12:52 (GMT-08:00) Pacific				
6010 Pb	07/26/19 15:00	5	01/14/20 12:52	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/26/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 07/18/19 16:44

Logged In By: Dan Marteski

Date Logged In: 07/18/19 17:26

Samples Received at: **3.9°C**

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192421-01 SS #6 @ 0.5' [Soil] Sampled 07/18/19 09:12 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 09:12	
STLC Pb	08/06/19 15:00	5	01/14/20 09:12	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 09:12	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 09:12	
TCLP Pb	08/06/19 15:00	5	01/14/20 09:12	

T192421-02 SS #7 @ 0.5' [Soil] Sampled 07/18/19 10:03 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:03	
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T192421-03 SS #8 @ 0.5' [Soil] Sampled 07/18/19 10:31 (GMT-08:00) Pacific Time (US &

6010 Pb	07/26/19 15:00	5	01/14/20 10:31	
STLC Pb	08/06/19 15:00	5	01/14/20 10:31	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 10:31	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 10:31	
TCLP Pb	08/06/19 15:00	5	01/14/20 10:31	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-04 SS #9 @ 0.5' [Soil] Sampled 07/18/19 11:58 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 11:58	
STLC Pb	08/06/19 15:00	5	01/14/20 11:58	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:58	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:58	
TCLP Pb	08/06/19 15:00	5	01/14/20 11:58	
T192421-05 SS #10 @ 0.5' [Soil] Sampled 07/18/19 11:24 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 11:24	
STLC Pb	08/06/19 15:00	5	01/14/20 11:24	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 11:24	
T192421-06 SS #1 @ 0.5' [Soil] Sampled 07/18/19 12:25 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:25	
STLC Pb	08/06/19 15:00	5	01/14/20 12:25	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:25	
T192421-07 SS #2 @ 0.5' [Soil] Sampled 07/18/19 12:34 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:34	
STLC Pb	08/06/19 15:00	5	01/14/20 12:34	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:34	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:34	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:34	
T192421-08 SS #3 @ 0.5' [Soil] Sampled 07/18/19 12:43 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:43	
STLC Pb	08/06/19 15:00	5	01/14/20 12:43	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:43	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:43	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:43	

WORK ORDER

T192421

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Analysis	Due	TAT	Expires	Comments
T192421-09 SS #4 @ 0.5' [Soil] Sampled 07/18/19 12:52 (GMT-08:00) Pacific Time (US &				
6010 Pb	07/26/19 15:00	5	01/14/20 12:52	
STLC Pb	08/06/19 15:00	5	01/14/20 12:52	
STLC Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:52	
TCLP Leaching Procedure Metals	08/06/19 15:00	5	01/14/20 12:52	
TCLP Pb	08/06/19 15:00	5	01/14/20 12:52	



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

27 September 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 07/30/19 16:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS#6 @2.5'	T192607-01	Soil	07/18/19 09:25	07/30/19 16:44
SS#8 @2.5'	T192607-02	Soil	07/18/19 10:38	07/30/19 16:44
SS#9 @2.5'	T192607-03	Soil	07/18/19 12:03	07/30/19 16:44
SS#10 @2.5'	T192607-04	Soil	07/18/19 11:31	07/30/19 16:44

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

DETECTIONS SUMMARY

Sample ID: SS#6 @2.5'

Laboratory ID: T192607-01

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.4	3.0	mg/kg	EPA 6010b	

Sample ID: SS#8 @2.5'

Laboratory ID: T192607-02

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	3.2	3.0	mg/kg	EPA 6010b	

Sample ID: SS#9 @2.5'

Laboratory ID: T192607-03

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	4.8	3.0	mg/kg	EPA 6010b	

Sample ID: SS#10 @2.5'

Laboratory ID: T192607-04

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	9.6	3.0	mg/kg	EPA 6010b	

SunStar Laboratories, Inc.



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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

SS#6 @2.5'
T192607-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
Lead	4.4	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

SS#8 @2.5'
T192607-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
Lead	3.2	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

SS#9 @2.5'
T192607-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
Lead	4.8	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

SS#10 @2.5'
T192607-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9073111	07/31/19	08/02/19	EPA 6010b	
Lead	9.6	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 9073111 - EPA 3050B

Blank (9073111-BLK1)

Prepared: 07/31/19 Analyzed: 08/02/19

Arsenic	ND	5.0	mg/kg							
Lead	ND	3.0	"							

LCS (9073111-BS1)

Prepared: 07/31/19 Analyzed: 08/02/19

Arsenic	99.2	5.0	mg/kg	100		99.2	75-125			
Lead	99.2	3.0	"	100		99.2	75-125			

Matrix Spike (9073111-MS1)

Source: T192545-03

Prepared: 07/31/19 Analyzed: 08/02/19

Arsenic	76.8	5.0	mg/kg	95.2	ND	80.7	75-125			
Lead	76.8	3.0	"	95.2	5.13	75.3	75-125			

Matrix Spike Dup (9073111-MSD1)

Source: T192545-03

Prepared: 07/31/19 Analyzed: 08/02/19

Arsenic	81.7	5.0	mg/kg	97.1	ND	84.1	75-125	6.14		QM-05
Lead	81.7	3.0	"	97.1	5.13	78.9	75-125	6.14	20	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
09/27/19 14:12

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
25712 Commerce Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Lead Out

Client: Ninyo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 7/18/2019 Page: 1 Of 1
Project Name: El Monte Sewer
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: 192607 EDF #: _____

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals <i>Lead only</i>	Laboratory ID #	Comments/Preservative	Total # of containers
SS # 6 @ 7.5'	7/18/2019	9:15 AM	Soil	4oz Glass Jar										01	3028 Granada Ave, El Monte, CA	1
SS # 8 @ 2.5'	7/18/2019	10:38 AM	Soil	4oz Glass Jar										02	3028 Granada Ave, El Monte, CA	1
SS # 9 @ 2.5'	7/18/2019	12:03 PM	Soil	4oz Glass Jar										03	3104 Washington Ave, El Monte, CA	1
SS # 10 @ 2.5'	7/18/2019	11:31 AM	Soil	4oz Glass Jar										04	3037 Nevada Ave, El Monte, CA	1
<div style="display: flex; justify-content: space-between;"> <div> Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7/30/19 16:15</u> Relinquished by: (signature) <u>[Signature]</u> Date / Time <u>7-30-19 16:44</u> Relinquished by: (signature) <u>[Signature]</u> Date / Time _____ </div> <div> Received by: (signature) <u>[Signature]</u> Date / Time <u>7/30/19 16:15</u> Received by: (signature) <u>[Signature]</u> Date / Time <u>7-30-19 16:44</u> Received by: (signature) <u>[Signature]</u> Date / Time _____ </div> <div> Total # of containers <u>4</u> Chain of Custody seals Y/N/NA <u>N/A</u> Seals intact? Y/N/NA <u>N/A</u> Received good condition/cold <u>25C</u> </div> <div> Notes <u>Preserved on ice / Refrigerator</u> </div> </div>																

Sample disposal instructions: Disposal @ \$2.00 each _____ Return to client _____ Pickup _____

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T192607

Client Name: Ningob & Monre Project: El Monte Sewer

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: Travis Date/Time Courier Received: 7-30-19

Lab Received by: Sunny Date/Time Lab Received: 7-30-19

Total number of coolers received: _____ Thermometer ID: SC-1 Calibration due : 6/27/20

Temperature: Cooler #1	°C +/- the CF (+ 1.2°C) = <u>2.5</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (+ 1.2°C) =	°C corrected temperature
Temperature criteria = ≤ 6°C (no frozen containers)		
Within criteria?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If NO:		
Samples received on ice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No → Complete Non-Conformance Sheet
If on ice, samples received same day collected?	<input type="checkbox"/> Yes → Acceptable	<input type="checkbox"/> No → Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: TB 7-30-19

Comments:

WORK ORDER

T192607

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 08/07/19 17:00 (5 day TAT)

Received By: Sunny Lounethone

Date Received: 07/30/19 16:44

Logged In By: Travis Berner

Date Logged In: 07/30/19 17:47

Samples Received at: 2.5°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192607-01 SS#6 @2.5' [Soil] Sampled 07/18/19 09:25 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 09:25
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T192607-02 SS#8 @2.5' [Soil] Sampled 07/18/19 10:38 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 10:38
---------	----------------	---	----------------

T192607-03 SS#9 @2.5' [Soil] Sampled 07/18/19 12:03 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 12:03
---------	----------------	---	----------------

T192607-04 SS#10 @2.5' [Soil] Sampled 07/18/19 11:31 (GMT-08:00) Pacific

Time (US &

6010 Pb	08/07/19 15:00	5	01/14/20 11:31
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25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

01 October 2019

Spencer Marcinek
Ninyo & Moore
475 Goddard, Ste. 200
Irvine, CA 92618
RE: El Monte Sewer Project

Enclosed are the results of analyses for samples received by the laboratory on 06/21/19 17:33. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Jaroudi
Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1@2.5	T192093-01	Soil	06/21/19 09:30	06/21/19 17:33
HA-2@2.5	T192093-02	Soil	06/21/19 10:15	06/21/19 17:33
HA-3@2.5	T192093-03	Soil	06/21/19 11:00	06/21/19 17:33
HA-4@2.5	T192093-04	Soil	06/21/19 12:00	06/21/19 17:33
HA-5@2.5	T192093-05	Soil	06/21/19 12:55	06/21/19 17:33

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

DETECTIONS SUMMARY

Sample ID: HA-1@2.5

Laboratory ID: T192093-01

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	2.9	2.7	mg/kg	EPA 6010b	

Sample ID: HA-2@2.5

Laboratory ID: T192093-02

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	5.8	3.0	mg/kg	EPA 6010b	

Sample ID: HA-3@2.5

Laboratory ID: T192093-03

Analyte	Result	Reporting	Units	Method	Notes
		Limit			
Lead	5.6	3.0	mg/kg	EPA 6010b	

Sample ID: HA-4@2.5

Laboratory ID: T192093-04

No Results Detected

Sample ID: HA-5@2.5

Laboratory ID: T192093-05

No Results Detected

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

HA-1@2.5
T192093-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	2.9	2.7	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

HA-2@2.5
T192093-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
Lead	5.8	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

HA-3@2.5
T192093-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Arsenic	ND	5.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
Lead	5.6	3.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

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Ninyo & Moore
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Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

HA-4@2.5
T192093-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	ND	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

HA-5@2.5
T192093-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	--------------------	-------	----------	-------	----------	----------	--------	-------

SunStar Laboratories, Inc.

Metals by EPA 6010B

Lead	ND	3.0	mg/kg	1	9062439	06/24/19	06/25/19	EPA 6010b	
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SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



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949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9062439 - EPA 3050B

Blank (9062439-BLK1)

Prepared: 06/24/19 Analyzed: 06/25/19

Arsenic	ND	5.0	mg/kg							
Lead	ND	3.0	"							

LCS (9062439-BS1)

Prepared: 06/24/19 Analyzed: 06/25/19

Arsenic	82.8	5.0	mg/kg	100		82.8	75-125			
Lead	83.0	3.0	"	100		83.0	75-125			

Matrix Spike (9062439-MS1)

Source: T192081-01

Prepared: 06/24/19 Analyzed: 06/25/19

Arsenic	92.1	5.0	mg/kg	99.0		93.0	75-125			QM-05
Lead	97.0	3.0	"	99.0	4.06	93.9	75-125			

Matrix Spike Dup (9062439-MSD1)

Source: T192081-01

Prepared: 06/24/19 Analyzed: 06/25/19

Arsenic	83.6	5.0	mg/kg	93.5		89.4	75-125	9.71		QM-05
Lead	89.8	3.0	"	93.5	4.06	91.7	75-125	7.81	20	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager



25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Ninyo & Moore
475 Goddard, Ste. 200
Irvine CA, 92618

Project: El Monte Sewer Project
Project Number: 210803001
Project Manager: Spencer Marcinek

Reported:
10/01/19 10:55

Notes and Definitions

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commerce Centre Dr
Lake Forest, CA 92630
949-297-5020

Client: Ninyo & Moore
Address: 475 Goddard, Suite 200, Irvine, CA 92618-4619
Phone: (949) 753-7070 Fax: (949) 753-7071
Project Manager: Spencer Marcinek

Date: 6/21/2019 Page: 1 of 1
Project Name: El Monte Sewer Project
Collector: Garrett Mottle (GM) Client Project #: 210803001
Batch #: 7192093 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 - Title 22 Metals (Lead Only)	Laboratory ID #	Comments/Preservative	Total # of containers
HA-1 @ 2.5'	3/21/2019	9:30 AM	Soil	8oz Glass Jar										01	3041 Lexington Avenue, El Monte, CA	1
HA-2 @ 2.5'	3/21/2019	10:15 AM	Soil	8oz Glass Jar										02	3062 Washington Avenue, El Monte, CA	1
HA-3 @ 2.5'	3/21/2019	11:00 AM	Soil	8oz Glass Jar										03	3137 Nevada Avenue, El Monte, CA	1
HA-4 @ 2.5'	3/21/2019	12:00 PM	Soil	8oz Glass Jar										04	3027 Gage Avenue, El Monte, CA	1
HA-5 @ 2.5'	3/21/2019	12:55 PM	Soil	8oz Glass Jar										05	3107 Granada Avenue, El Monte, CA	1
<div> <div>Relinquished by: (signature) <u>Paul Flinn</u> Date / Time <u>6/21/2019 @ 15:50</u></div> <div>Received by: (signature) <u>Paul Flinn</u> Date / Time <u>6/21/2019 @ 15:50</u></div> </div> <div> <div>Relinquished by: (signature) <u>Paul Flinn</u> Date / Time <u>6-21-19 17:33</u></div> <div>Received by: (signature) <u>Garrett Mottle</u> Date / Time <u>6-21-19 17:33</u></div> </div> <div> <div>Relinquished by: (signature) _____ Date / Time _____</div> <div>Received by: (signature) _____ Date / Time _____</div> </div>																
Total # of containers <u>5</u> Seals intact? Y/N/NA <u>NA</u> Received good condition/cold <u>3.9</u>														Turn around time: <u>Standard</u> Preserved on ice/refrigerator		

Sample disposal instructions: Disposal @ \$2.00 each _____

Return to client _____

Pickup _____

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: 7192093

Client Name: NINYO & MOORE

Project: EL MONTE SEWER PROJECT

Delivered by: ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other

If Courier, Received by: PAUL

Date/Time Courier Received: 6-21-19 / 15:50

Lab Received by: TRAVIS

Date/Time Lab Received: 6-21-19 / 17:33

Total number of coolers received: 0

Temperature: Cooler #1 <u>2.7</u>	°C +/- the CF (1.2°C) = <u>3.9</u>	°C corrected temperature
Temperature: Cooler #2	°C +/- the CF (1.2°C) =	°C corrected temperature
Temperature: Cooler #3	°C +/- the CF (1.2°C) =	°C corrected temperature

Temperature criteria = $\leq 6^{\circ}\text{C}$ (no frozen containers) Within criteria? ☒ Yes ☐ No

If NO:

Samples received on ice? ☐ Yes

☐ No →

Complete Non-Conformance Sheet

If on ice, samples received same day collected? ☐ Yes → Acceptable

☐ No →

Complete Non-Conformance Sheet

Custody seals intact on cooler/sample ☐ Yes ☐ No* ☒ N/A

Sample containers intact ☒ Yes ☐ No*

Sample labels match Chain of Custody IDs ☒ Yes ☐ No*

Total number of containers received match COC ☒ Yes ☐ No*

Proper containers received for analyses requested on COC ☒ Yes ☐ No*

Proper preservative indicated on COC/containers for analyses requested ☐ Yes ☐ No* ☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times ☒ Yes ☐ No*

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: SL 6-22-19

Comments:

WORK ORDER

T192093

Client: Ninyo & Moore
Project: El Monte Sewer Project

Project Manager: Mike Jaroudi
Project Number: 210803001

Report To:

Ninyo & Moore
Spencer Marcinek
475 Goddard, Ste. 200
Irvine, CA 92618

Date Due: 07/01/19 17:00 (5 day TAT)

Received By: Travis Berner

Date Received: 06/21/19 17:33

Logged In By: Sunny Lounethone

Date Logged In: 06/22/19 10:17

Samples Received at: 3.9°C

Custody Seals No Received On Ice Yes

Containers Intact Yes

COC/Labels Agree Yes

Preservation Confir No

Analysis	Due	TAT	Expires	Comments
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T192093-01 HA-1@2.5 [Soil] Sampled 06/21/19 09:30 (GMT-08:00) Pacific Time
(US &

6010 Pb	07/01/19 15:00	5	12/18/19 09:30
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T192093-02 HA-2@2.5 [Soil] Sampled 06/21/19 10:15 (GMT-08:00) Pacific Time
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6010 Pb	07/01/19 15:00	5	12/18/19 10:15
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T192093-03 HA-3@2.5 [Soil] Sampled 06/21/19 11:00 (GMT-08:00) Pacific Time
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6010 Pb	07/01/19 15:00	5	12/18/19 11:00
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T192093-04 HA-4@2.5 [Soil] Sampled 06/21/19 12:00 (GMT-08:00) Pacific Time
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6010 Pb	07/01/19 15:00	5	12/18/19 12:00
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T192093-05 HA-5@2.5 [Soil] Sampled 06/21/19 12:55 (GMT-08:00) Pacific Time
(US &

6010 Pb	07/01/19 15:00	5	12/18/19 12:55
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475 Goddard, Suite 200 | Irvine, California 92618 | p. 949.753.7070

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APPENDIX B



To: Lori Trottier and Sarita Lemons, Infrastructure Engineering Corporation
From: Brenda Bennett, Rocks Biological Consulting
Date: May 8, 2019
Subject: City of El Monte Tree Survey Summary for the Nevada Avenue and Bodger Street Sewer Replacement Project, El Monte, California.

At the request of Infrastructure Engineering Corporation (IEC), Rocks Biological Consulting, Inc. (RBC) conducted a preliminary tree count survey for the Nevada Avenue and Bodger Street Sewer Replacement Project (project). The proposed project occurs within the City of El Monte, within the area bounded by Santa Anita Avenue on the west, Mildred Street on the north, Tyler Avenue on the east, and East Garvey Avenue on the south. The project would include rehabilitation and installation of new sewer lines within this area and installing new laterals in select areas. The tree count survey area included all proposed sewer lines within the project area plus a 25-foot buffer and an area where lateral connections may be required (collectively, the survey area; see attached project figure for locations). On April 19, 2019, ISA Certified Arborist, Brenda Bennett (WE-10776A) mapped all trees within the survey area and assigned an approximate height to each tree. A total of 660 trees were observed within the survey area.

SCOPE OF WORK

Due to access restrictions, a full arborist survey of the site could not be performed at this time. As such, the scope of work for the initial tree count survey described herein was to: 1) Conduct a 'tree points only' field survey of the work area (as delineated by IEC; see attached); 2) Prepare a written summary of the maximum number of trees that could be impacted; and 3) Identify potential mitigation requirements, assuming all potentially impacted trees are protected under the City of El Monte Tree Ordinance.

Project deliverables include: 1) A digital file with a point for each tree within the work boundaries, with each tree will assigned an approximate height classification, (e.g., <10', 10-30', etc.); and 2) A written summary memo of the number of total trees observed, a brief summary of the City of El Monte's tree ordinance, and potential 'worst case' mitigation requirements (i.e., provide a maximum number of trees to be planted and mitigated for).

A digital file with tree point counts was provided via electronic message on May 7, 2019; this memo report shall serve as the second project deliverable.

RESULTS

RBC observed a total of 660 trees within the survey area, of which 318 measured less than 15 feet tall, 255 measured between 15 to 30 feet tall, 73 measured between 30 to 50 feet tall, and 14 measured more than 50 feet tall (Table 1).

Table 1: Nevada Avenue and Bodger Street Sewer Replacement Tree Counts

Tree Height	Number Observed
<15 feet	318
15-30 feet	255
30-50 feet	73
>50 feet	14
Total	660

Note that a subsequent survey will need to be performed to obtain additional details for each tree, including the species and diameter at breast height (DBH), in order to determine whether a tree qualifies as a “Protected Tree” under the City of El Monte’s Tree Protection and Preservation Ordinance (TPPO).

City of El Monte Tree Protection Background

Within the City of El Monte, protected trees are defined as follows (§14.03.020):

Public Tree: Any tree, regardless of size, “planted in the public right-of-way, park, parkway, median, easement or on any other city-owned property”.

Heritage Tree: Any tree, shrub, or plant that meets one of the following criteria: 1) A single trunk circumference of a 36 inches or more; 2) Any multi-trunk tree whose multiple trunks have a combined circumference of 75 inches or more; 3) Any tree that is 35-feet or more in height; 4) Any stand of trees “the nature of which makes each dependent upon the others for survival”; or 5) Any other tree that the City Arborist or Economic Development Director (EDD) deems as “historically or culturally significant because of its size, connection to the city’s history or lore, location, or aesthetic qualities.”

Native Tree: Any of the California native trees specified within the TPPO with a DBH of more than eight inches.

Under the TPPO, any person proposing to remove or relocate a “Protected Tree” within the City of El Monte must first submit a Tree Removal Permit Application to the City of El Monte EDD (EMMC §14.03.060). The application must include “a statement as to the reasons for removal or relocation; [t]he number, species, and size (circumference as measured four and one-half (4 ½) feet from ground level) and height of tree; [t]he location of trees on a plot plan in relation to structures and improvements...; [p]hotographs of all trees to be removed or relocated; [i]f the tree is proposed to be relocated, the relocation site shall be identified and site preparation and relocation methods described; [p]roposed method of removal or relocation; [t]he health of any tree declared dead, diseased, infested, or dying...; and [p]roposed tree replacement plan the substantive features and content of which shall be established administratively by the City Arborist” (EMMC § 14.03.070).

The TPPO also prohibits the following activities to a “Protected Tree”: causing serious harm; severely pruning; topping; depositing, discharging, releasing, or applying poison, hazardous material, or toxic substance on the ground within the dripline of a “Protected Tree”; or “attaching any rope, wire, nail(s), tack(s), staples, advertising posters, or other contrivance” (EMMC § 14.03.030). Trees that the Director of Public Works/City of Engineer determines have damaged or have the potential to damage public infrastructure, trees which need to be maintained or removed to protect property of a public utility, trees which bear fruits or nuts, and all species of palms are exempted from the TPPO requirements (EMMC § 14.03.05).

Potential Tree Replacement Requirements

For every “Protected Tree” that is removed a minimum of two, 36-inch box trees measuring at least 12 feet tall must be planted on the subject property or adjacent public right-of-way (EMMC § 14.03.090). The species of tree that is planted must be chosen from the City of El Monte’s recommended tree palette and be approved by the EDD. If planting within the subject property or adjacent public right-of-way is not possible, an in lieu fee may be paid into the City of El Monte’s tree mitigation and planting fund (EMMC § 14.03.090).

Note that a full arborist survey was not possible due to access restrictions; however, for general planning purposes, if all 660 trees observed within the survey area are determined to meet the definition of a “Protected Tree,” then 1,320 trees would need to be planted or, alternatively, an in lieu fee would need to be paid into the City of El Monte’s tree mitigation and planting fund. Currently, per the City of El Monte’s website, the in lieu fee for each replacement tree is \$406.52.



APPENDIX C

**CULTURAL RESOURCES SURVEY REPORT
FOR THE
EL MONTE NEVADA AND BODGER PROJECT
CITY OF EL MONTE, CALIFORNIA**

Prepared for:

Ms. Lori Trottier
Infrastructure Engineering Corporation
14271 Danielson St.
Poway, CA 92064

Submitted by:

Laguna Mountain Environmental, Inc.
7969 Engineer Road, Suite 208
San Diego, CA 92111

Andrew R. Pigniolo

August 2019

National Archaeological Data Base Information

Type of Study: Cultural Resource Survey

Sites: None

USGS Quadrangle: El Monte 7.5'

Area: approximately 4,860 Linear Feet

Key Words: City of El Monte, Negative Survey, Nevada Avenue, Bodger Street, Sewer Replacement Project, Historic Sidewalks

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ABSTRACT

Laguna Mountain Environmental, Inc. (Laguna Mountain) conducted an intensive archaeological survey of an approximately 4,860 linear foot sewer replacement project in the City of El Monte. The archaeological investigation included a records search, literature review, examination of historic maps, and archaeological field survey of the project alignment.

Cultural resource work was conducted in accordance with the California Environmental Quality Act (CEQA), the California Code of Regulations (CCR), and related implementing regulations and guidelines. The City of El Monte will serve as lead agency for the project and CEQA compliance.

A records search covering the project area and a one-mile radius was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton to provide data on previously recorded cultural resources in the area. The records search results indicate that the project area has not been previously surveyed and that no cultural resources have previously been recorded in the current project area. At least 24 cultural investigations have been conducted within a one mile radius of the project area. Forty-two historic resources have been recorded in the vicinity, but none are adjacent to or within the project area.

The current survey was conducted on March 14, 2019 by Andrew R. Pignuolo, RPA. It included an intensive survey of public right-of-way throughout the project alignment. The project area has been previously developed into a suburban neighborhood and park. Surface visibility within the area was poor. Vegetation included landscaping and even in poorly maintained sidewalk islands, dense non-native herbs and grass cover was present due to the spring rains. Small areas of open landscaping, rodent backdirt and previous disturbance exposed areas of soil. Survey visibility averaged approximately 10 percent. No other major constraints to the survey were present.

The project area is well developed. No cultural resources were identified during the survey. Historic sidewalk stamps were present throughout the project vicinity. These suggest that the sidewalks and streets were developed in 1928. Historic-age street trees and houses are also present in the project area. Historic buildings and structures are also located near the project area, but should not be adversely impacted by the proposed project.

The goal of the project was to identify resources that may be impacted by the project. The cultural resource survey did not identify any cultural resources near the alignment other than historic sidewalks and related date stamps and historic era street landscaping.

Impacts to cultural resources eligible for the California Register of Historical Resources and significant under the CEQA are not anticipated. Potential impacts to adjacent historic sidewalk date stamps, historic street landscaping, and historic structures should be avoided during the design phase and should not occur. The potential for impacts to buried prehistoric cultural resources is present, however. Construction excavation monitoring by an archaeologist and Native American Monitor is recommended. The proposed project should result in no adverse effect to cultural resources.

I. INTRODUCTION

A. Project Location and Description

The proposed action is a sewer infrastructure project located within the City of El Monte in southeastern Los Angeles County (Figure 1). The project is south of Interstate-10 and north of Garvey Avenue. Tyler Avenue and Santa Anita Avenue mark the eastern and western boundaries of the area respectively. The project area is situated in the southeast quarter of Section 21 in Township 1 South, Range 11 West as shown on the El Monte USGS 7.5' Quadrangle (Figure 2).

The current archaeological survey program was conducted pursuant to the California Environmental Quality Act (CEQA), the California Code of Regulations (CCR), and related implementing regulations and guidelines. The City of El Monte will serve as lead agency for the project and CEQA compliance. CEQA requires local agencies to take into account the effect of projects on properties included, or eligible for inclusion, in the California Register of Historical Resources (California Register). The archaeological survey was conducted to determine if any cultural resources eligible for inclusion in the California Register will be affected by this project.

B. Project Personnel

The cultural resource inventory was conducted by Laguna Mountain Environmental Inc. (Laguna Mountain). Mr. Andrew R. Pigniolo served as Principal Investigator for the project. Mr. Pigniolo meets the Secretary of the Interior's standards for qualified archaeologists. Mr. Pigniolo has an MA degree in Anthropology from San Diego State University and has extensive experience in the southern California region. His resume is included as Appendix A.

Ms. Carol Serr performed the record search, prepared the report graphics, and formatted the report. She has a B.A. in Anthropology from San Diego State University and more than 39 years of experience in San Diego archaeology.

C. Structure of the Report

This report follows the State Historic Preservation Office's guidelines for Archaeological Resource Management Reports (ARMR). The report introduction provides a description of the project and associated personnel. Section II provides background on the project area and previous research. Section III describes the research design and survey methods, while Section IV describes the survey results. Section V provides a summary and recommendations.

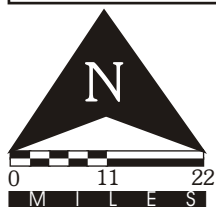
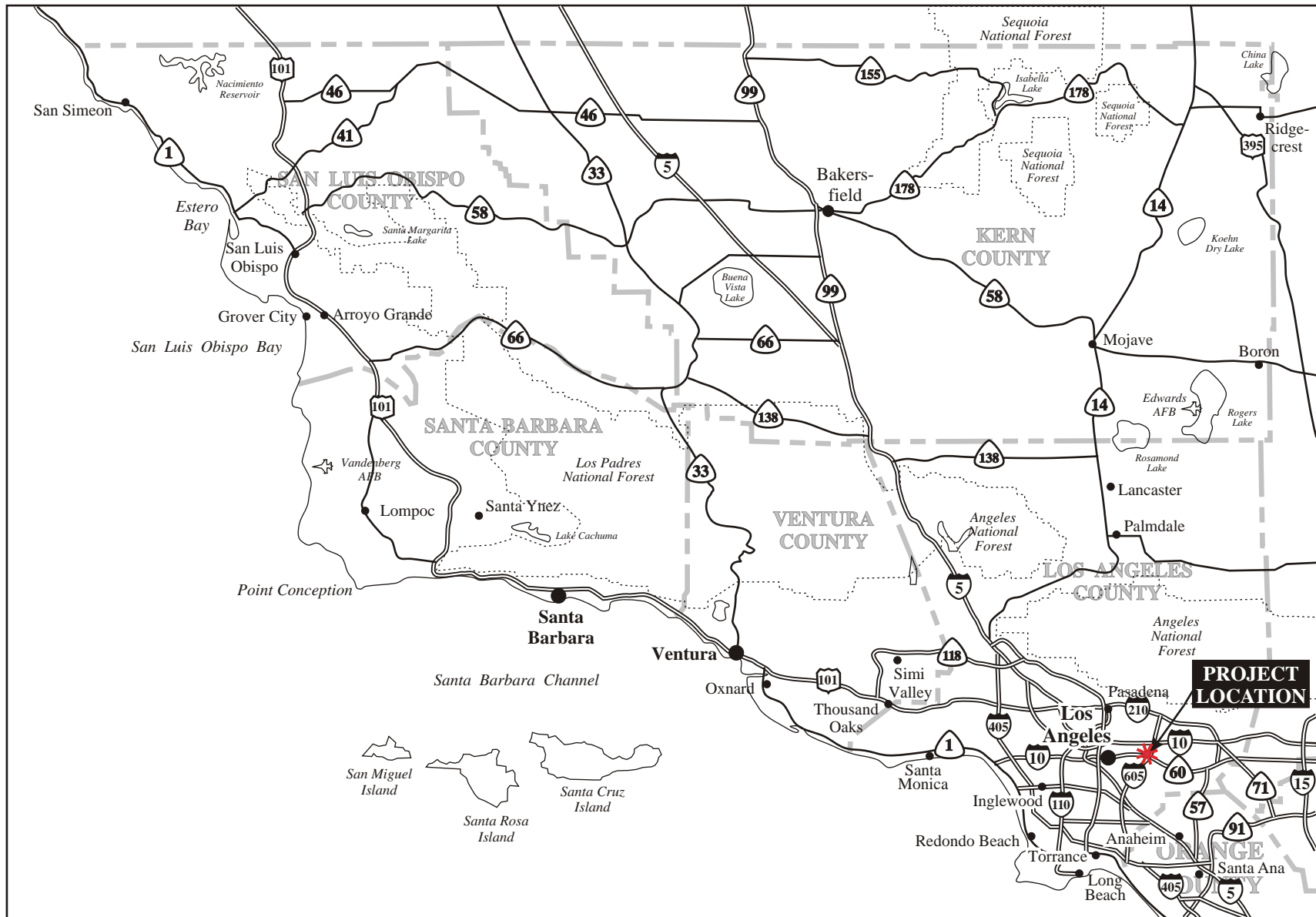
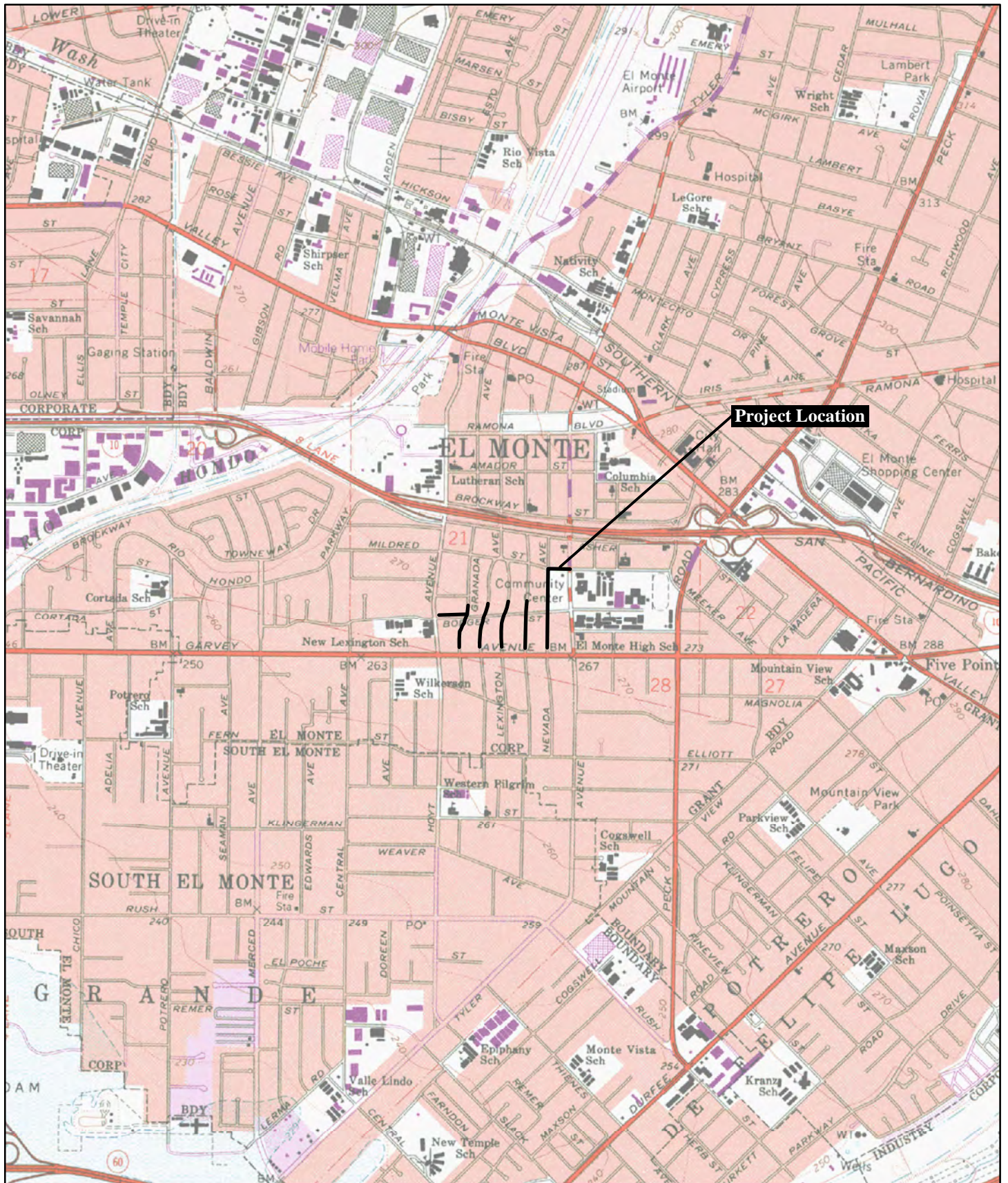


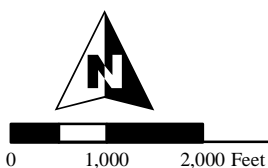
Figure 1
Regional Location Map





Source: USGS 7.5' El Monte Quadrangle

Figure 2
Project Location



II. NATURAL AND CULTURAL SETTING

The following environmental and cultural background provides a context for the cultural resource inventory.

A. Natural Setting

The project area is located in the central portion of the City of El Monte in the southeastern portion of Los Angeles County within the interior valleys of the region. The elevation of the project area averages around 270 feet above mean sea level. The area consists of level alluvial valley deposits. The project area includes a residential neighborhood, a park, and an area of commercial development.

The landscape of the project area is largely a product of the region's geology. During the Mesozoic Era, a granitic batholith was formed inland from the southern California coastline. This batholith was uplifted during the Cenozoic and now forms the granitic rocks and outcrops of the Transverse Range north of the project area (Campbell et al. 2014). .

The project area is underlain by alluvium derived from the Transverse Range to the north (Campbell et al. 2014). This alluvium is classified as Young alluvial-fan deposits, Unit 3 which is Holocene to late Pleistocene in age (Campbell et al. 2014).

The original channel of Rio Hondo probably provided water to the area.

The soils in the project area are Urban land-Biscailuz-Pico complex (NRCS 2013). These soils are alluvial and made up of loam, sandy clay loam, and sand and soil profiles can reach as deep as 79 inches. They are composed of mixed alluvium derived from granite and/or sedimentary rock (NRCS 2013).

The climate of the region can generally be described as Mediterranean, with cool wet winters and hot dry summers. Rainfall limits vegetation growth but Riversidean Alluvial Fan Sage Scrub was probably present within the project in the past. The area currently consists of non-native herbs and grasses.

Animal resources in the region probably included deer, fox, raccoon, skunk, mountain lion, bobcat, coyote, rabbit, and various rodent, reptile, and bird species. Small game, dominated by rabbits, was probably relatively abundant in the past.

B. Cultural Setting

Paleoindian Period

The earliest well documented prehistoric sites in southern California are identified as belonging to the Paleoindian period. The Paleoindian period is thought to have occurred between 12,000 years ago, or earlier, and 8,000 years ago in this region. Although varying from the well-defined fluted point complexes such as Clovis, the period is seen as a hunting focused economy with limited use of seed grinding technology. The economy is generally seen to focus on highly ranked resources such as large mammals and relatively high mobility that may be related to following large game. Archaeological evidence associated with this period has been found around inland dry lakes, on old terrace deposits of the California desert, and also near the coast.

Archaic or Millingstone Period

Native Americans during the Archaic period had a generalized economic focus on hunting and gathering. In many parts of North America, Native Americans chose to replace this economy with types based on horticulture and agriculture. Coastal southern California economies remained largely based on wild resource use until European contact (Willey and Phillips 1958).

The Early Archaic period is differentiated from the earlier Paleoindian period by a shift to a more generalized economy and an increased focus on use of grinding and seed processing technology. At sites dated between approximately 8,000 and 1,500 years before present (BP), the increased use of groundstone artifacts and atlatl dart points, along with a mixed core-based tool assemblage, identify a range of adaptations to a more diversified set of plant and animal resources. Variations of the Pinto and Elko series projectile points, large bifaces, manos and portable metates, core tools, and heavy use of marine invertebrates in coastal areas are characteristic of this period, but many coastal sites show limited use of diagnostic atlatl points. Major changes in technology within this relatively long chronological unit appear limited. Several scientists have considered changes in projectile point styles and artifact frequencies within the Early Archaic period to be indicative of population movements or units of cultural change (Moratto 1984) but these units are poorly defined locally due to poor site preservation.

Late Prehistoric Period

Approximately 2,000 years ago, Shoshonean groups are thought to have migrated into southern California. These people spoke a Takic language, a sub-family of the Uto-Aztecan family; the descendants of whom include the Cahuilla, Gabrielino, Luiseño, and Serrano. The Late Prehistoric period in San Bernardino County is recognized archaeologically by smaller projectile points, the replacement of flexed inhumations with cremation, the introduction of ceramics and an emphasis on inland plant food collection and processing, especially acorns. Inland semi-sedentary villages were established along major water courses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling stations on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed-grinding basins.

The Gabrielino

The Native American people who occupied most of the Los Angeles basin and adjacent regions at the time of Spanish contact are referred to as the Gabrielino. This name was given to them by the Spanish in reference to the San Gabriel Mission, one of the two major Spanish missions established in Gabrielino territory (Bean and Smith 1978).

Although the area occupied by the Gabrielino is considered to have been one of the most environmentally favored in southern California and the Gabrielino are considered to have been one of the wealthiest and most influential cultural groups in the area, much less is known about them because the population was decimated early on (Kroeber 1925). The territory inhabited by the Gabrielino at Spanish contact encompassed Los Angeles County, northern Orange County, and parts of western San Bernardino and Riverside counties. The eastern boundary with the Serrano people was somewhere in the San Bernardino area.

The Gabrielino relied heavily upon the exploitation of wild plant resources (Johnston 1962). Evidence about population size and density is scant. The group possibly had more than 50 or 100 mainland villages with an average population of 50-100 per village (Bean and Smith 1978). These estimates fit in with Kroeber's estimate that in 1770 the population was about 5,000.

Like other Native Californians the Gabrielino wove baskets for many uses, although few baskets authentically assignable to them have been preserved (Kroeber 1925). No pottery was made by the Gabrielino until the mission days (Kroeber 1925:628).

Few details are known with certainty regarding the Gabrielino social and political systems due to early severe disruptions of traditional culture following Spanish contact. It appears that a moiety system similar to nearby groups existed (Bean and Smith 1978). The available data indicate that the Gabrielino were characterized by three hierarchically ordered social classes: an elite that included chiefs, their immediate families, and the very rich; a middle class from fairly well-to-do and long-established lineages; and a third class of everyone else (Bean and Smith 1978).

Villages were usually autonomous, and the dominant lineage's leader was usually the village chief. Sometimes a single chief maintained leadership over several villages, and a chief's authority was legitimized by his possession of the sacred bundle (Bean and Smith 1978).

The Gabrielino are believed to have been highly associated with one of the most popular and widespread religious cults in the southwest. Unfortunately, extremely little ethnohistoric information exists for the Gabrielino on the Jimson-weed or toloache cult, or on Chinigchinich, the important leader responsible for spreading the beliefs and rituals of this religion to other societies (Johnston 1962).

The severe cultural experiences and changes that the Gabrielino experienced during the Mission, Post-Mission, and American periods of history are well-described by Johnston (1962). Like many other native populations of the New World, the Gabrielino proved remarkably susceptible to European diseases, even in advance of direct contact or actual settlement. The seemingly low population estimates based on Spanish mission records probably reflect this early depopulation.

Ethnohistoric Period

The Ethnohistoric period refers to a brief period when Native American culture was initially being affected by Euroamerican culture and historical records on Native American activities were limited. When the Spanish colonists began to settle California, they established missions to incorporate Native Americans into the emerging European society.

By the early 1820s California came under Mexico's rule, and in 1834 the missions were secularized resulting in political imbalance which caused Indian uprisings against the Mexican rancheros. Many Native Americans left the missions and ranchos and returned to their original village settlements.

When California became a sovereign state in 1849, Native Americans were recruited more heavily as laborers and experienced even harsher treatment. Conflicts between Indians and encroaching Anglos finally led to the establishment of reservations for some Indian populations. The reservation system interrupted Native American social organization and settlement patterns, yet many aspects of the original culture still persist today. Certain rituals and religious practices are maintained and traditional games, songs and dances continue as well as the use of foods such as acorns, yucca and wild game.

Historic Period

Cultural activities within western San Bernardino County between the late 1700s and the present provide a record of Native American, Spanish, Mexican, and American control, occupation, and land use. An abbreviated history of the region is presented for the purpose of providing a background on the presence, chronological significance, and historical relationship of cultural resources within the County.

Native American control of the southern California region ended in the political views of western nations with Spanish colonization of the area beginning in 1769. De facto Native American control of the majority of the population of California did not end until several decades later. In southern California Euroamerican control was firmly established by the end of the Garra uprising in the early 1850s (Phillips 1975).

The Spanish Period (1769-1821) represents a period of Euroamerican exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the San Diego, San Gabriel, and San Luis Rey Missions. The Mission system used Native Americans to build a footing for greater European settlement. The Mission system also introduced horses, cattle, other agricultural goods and implements; and provided construction methods and new architectural styles. The cultural and institutional systems established by the Spanish continued beyond the year 1821, when California came under Mexican rule.

The Mexican Period (1821-1848) includes the retention of many Spanish institutions and laws. The mission system was secularized in 1834 which dispossessed many Native Americans and increased Mexican settlement. After secularization, large tracts of land were granted to individuals and

families and the rancho system was established. Cattle ranching dominated other agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblos of Los Angeles and San Diego were established during this period and Native American influence and control greatly declined. The Mexican Period ended when Mexico ceded California to the United States after the Mexican-American War of 1846-48.

Soon after American control was established (1848-present) gold was discovered in California. The tremendous influx of American and Europeans that resulted, quickly drowned out much of the Spanish and Mexican cultural influences and eliminated the last vestiges of de facto Native American control. Few Mexican ranchos remained intact because of land claim disputes and the homestead system increased American settlement beyond the coastal plain.

C. Prior Research

The archaeological inventory includes archival and other background studies conducted prior to performing the field survey of the project. The archival research consisted of a literature and records search at the regional archaeological repository. This information was used to identify previous studies associated with the property and previously recorded resources. A one-mile radius of the project was checked in the record search to determine the types of resources that might occur in the survey vicinity.

The records and literature search for the project was conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton (Appendix B). The records search results indicate that the current project area has not been previously surveyed and no cultural resources have previously been recorded within the parcels. At least 24 cultural investigations have been conducted within a one mile radius of the project area (Table 1).

Forty-two historic resources have been recorded in the vicinity (Table 2). None of these resources are within or directly adjacent to the project area. The closest recorded resource is approximately 500 feet from the southwestern terminus of the project segments. All of these recorded structures exist either south of Garvey Avenue or north of I-10/Brockway Street. The historic resources consist of primarily historic structures. Mostly residences and a few commercial buildings, along with a church and an old jail. The El Monte jail, along with a portion of the Mojave Road are both state historic landmarks.

Historic research included an examination of a variety of resources. The current listings of the National Register of Historic Places were checked through the National Register of Historic Places website. The California Inventory of Historic Resources (State of California 1976) and the California Historical Landmarks (State of California 1992) were also checked for historic resources.

Copies of historic maps and aerial photographs were also examined to supplement the historic research. The results of the historic map and aerial research are provided in the results section of this report.

Table 1. Cultural Resources Investigations within One Mile of the Project Area

Author(s)	Report Title	Year
Allen	Records Search for Bechtel Project #950023018C, Van Industrial, EI Monte	2003
Billat	SBC EI Monte, LA-0297A	2006
Billat	New Tower Submission Packet, Mecca Plaza	2012
Billat	New Tower Submission Packet, Garvey Shopping Center	2012
Bonner	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate IE25752 Associates (Quon Yick Noodle), Telstar Avenue, EI Monte	2007
Bonner and Crawford	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate IE04037 A (LA017 LA-017-01-PB), 3614 Center Avenue, EI Monte	2012
Crippen	Historical Value of Residence Located at 11423 Medina Court in EI Monte	2000
Daly	Bridge No. 53C-0897 Santa Anita Avenue under Union Pacific Railroad Seismic Retrofit Project, County of Los Angeles Department of Public Works Environmental Services Task Order EP 07-003 Project I.D. No. RDC0012186	2008
Duke	Cultural Resource Assessment for AT&T Fixed Wireless Services Facility Number LA-340-A, County of Los Angeles	2000
Duke	Cultural Resource Assessment Cingular Wireless Facility No. VY 120-02, Los Angeles County	2002
Hector	Archaeological Record Search for the Proposed Renovation and Addition to Lambert Park Or to Mountain View Park, City of EI Monte	1976
Horne	Letter Report of Archaeological Survey for a Los Angeles County Sanitation Dist. Project, Engineer Report for Tyler Avenue Relief Trunk Sewer Section 2	1976
Lapin	Cultural Resource Assessment for Pacific Bell Wireless Facility LA 950-02, County of Los Angeles	2000
Lewis	A Phase I Archaeological Resource Survey and Impact Evaluation for the Rio Hondo River Project, EI Monte	2006
McKenna	A Phase I Cultural Resources Investigation for Proposed Commercial Redevelopment on Arden Drive, Approximately 16.28 Acres of Land in the City of EI Monte	2012
Sander and Daly	Historic Property Survey Report: Union Pacific Railroad Bridge, Santa Anita Ave., EI Monte	2008
Schmidt	Phase I Archaeological Survey: Business Incubator Facility, EI Monte	1999
Shibata	Section 106 Consultation for Clinic Renovations, 9960 Baldwin Place, EI Monte	2010
Smith	Highway Project for Rehabilitation to the on and Off-ramps along Route 10 from Los Angeles to EI Monte	2001
Tang	Historical Resources Survey Report Urban Transit Village Project, City of EI Monte	2006
Tang	Preliminary Historical/Archaeological Resources Study, San Bernardino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties of Los Angeles and San Bernardino	2010
Tang et al.	Historical/Archaeological Resources Survey Report EI Monte Hyundai Project	2004
Tang et al.	Historic-Period Building Survey, Santa Fe Trail Plaza Redevelopment Project, in the City of EI Monte	2005
Wlodarski and Larson	Department of Transportation Negative Archaeological Survey Report DPD-EP-25 Interstate 10 (I-10) Between Baldwin Avenue in City of EI Monte on the West and the Interchange Between I-10 and I-605	1993

Table 2. Recorded Cultural Resources within One Mile of the Project Area

Resource No. P-19-	Resource Type	Recorder (Year)
004730	Historic concrete tunnel (CPHI)	Ballester (2016)
186527	Old El Monte jail (CHL #975)	Howse (1989)
186565	Historic residence	Elder (1989)
187270	Historic residence	Smith (1993)
187368	Historic residence	Tang et al. (2004)
187369	Historic residence	Tang et al. (2004)
187370	Historic residence	Tang et al. (2004)
187371	Historic church	Tang et al. (2004)
187372	Historic residence	Tang et al. (2004)
187373	Historic residence	Tang et al. (2004)
187085	The Mojave Road (CHL #963)	Elder (1989)
187901	Historic building	Tabguichi and Galvin (2006)
188158	Historic building	Fisher (2007)
188409	Historic residence	Tang (2005)
188410	Historic residence	Tang (2005)
188411	Historic residence	Tang (2005)
188412	Historic residence	Tang (2005)
188413	Historic residence	Tang (2005)
188414	Historic residence	Tang (2005)
188415	Historic residence	Tang (2005)
188416	Historic residence	Tang (2005)
188417	Historic residence	Tang (2005)
188418	Historic residence	Tang (2005)
188419	Historic residence	Tang (2005)
188420	Historic residence	Tang (2005)
188421	Historic residence	Tang (2005)
188422	Historic residence	Tang (2005)
188423	Historic residence	Tang (2005)
188424	Historic residence	Tang (2005)
188425	Historic residence	Tang (2005)
188426	Historic residence	Tang (2005)
188427	Historic residence	Tang (2005)
188428	Historic residence	Tang (2005)
188429	Historic residence	Tang (2005)
188430	Historic residence	Tang (2006)
188435	Historic commercial building	Tang (2005)
192445	Historic residence	Freij (2017)
192446	Historic commercial building	Freij (2017)
192447	Historic residence	Freij (2017)
192448	Historic commercial building	Freij (2017)
192449	Historic residence	Freij (2017)
192450	Historic commercial building	Freij (2017)

CPHI = California Place of Historic Interest

CHL = California Historic Landmark

D. Native American Contact Program

State law identify Native American consultation and participation as an important aspect of the cultural resource evaluation process. A Sacred Lands Search was initially conducted on February 28, 2019. A positive response was received on March 7, 2019. Native American Contact correspondence is included as Appendix C.

Initial consultation with interested Tribes took place via e-mail on March 8, 2019 with the Gabrieleno Band of Mission Indians and Gabrielino-Tongva Nation. A response from the Gabrieleno Band of Mission Indians- Kizh Nation provided ethnographic information on village locations in the Whittier Narrows region, suggesting potential for cultural resources within the project area.

III. RESEARCH DESIGN AND METHODS

A. Survey Research Design

The goal of the project was to identify any cultural resources that might be affected by the proposed project. To accomplish this goal, background information was examined and assessed, and a field survey was conducted to identify cultural material. Based on the records search and historic map check, cultural resources within the project area were most likely to be historic. The current field survey was conducted to identify any unrecorded resources within the project area.

B. Survey Methods

The current survey was conducted on March 14, 2019 by Andrew R. Pignuolo, RPA. It included an intensive survey of public right-of-way throughout the project alignment. The project area has been previously developed into a suburban neighborhood and park. Surface visibility within the area was poor. Vegetation included landscaping and even in poorly maintained sidewalk islands, dense non-native herbs and grass cover was present due to the spring rains. Small areas of open landscaping, rodent backdirt and previous disturbance exposed areas of soil. Survey visibility averaged approximately 10 percent. No other major constraints to the survey were present.

C. Native American Consultation

A sacred sites search was conducted with the California Native American Heritage Commission (NAHC) (Appendix C). A positive response was received along with a Tribal contact list. Tribal consultation per Assembly Bill 52 for the current project has been conducted. It includes outreach and information requests from local Native American Tribal groups.

IV. SURVEY RESULTS

The survey of the project area did not identify any historic or prehistoric cultural material within the project area. Surface visibility was relatively poor during the survey, but no historic or prehistoric cultural material was observed.

Areas adjacent to the proposed project include a variety of historic resources. Sidewalks in the neighborhood are of historic age and include historic date stamps that may be impacted by the current project (Figure 3a). Date stamps were primarily from 1928, but included other years in the 1930s. Street tree landscaping of historic age is present along Granada Avenue (Chinese elm) and Lexington Avenue (crepe myrtle) (Figure 3b). Historic-age street trees were present by 1948 (NETR 1948), but probably date to the 1928 initial development period. In addition, many of the homes in the project neighborhood date from the late 1920s through the 1940s and may represent individually eligible historic structures.

The Tony Arceo Memorial Park Bandshell is a locally designated historic resource north of the project alignment. This resource is not within the project area of potential effects (APE) and should not be effected by the proposed project. The El Monte Community Center Complex, which contains the Grace Black auditorium, courtyard, and El Monte Historical Society Museum is locally significant. These buildings are located east of the project alignment and again outside the project APE and should not be effected by the proposed project. The El Monte Aquatic Center is a contemporary building of architectural significance and could be considered for local significance. It is located to the northeast of the project alignment and again outside the project APE.

Public trash collection in the area was not regular before 1957 and many residences had private incinerators in their yards. These practices created the potential for historic-age backyard trash deposits within private parcels within the APE.



a. Historic Sidewalk Stamp (PR-06583-009)



b. Crepe Myrtle Trees on Lexington Avenue, Looking North (PR-06583-004)

Figure 3 Historic Sidewalk Stamp and Trees



V. SUMMARY AND RECOMMENDATIONS

The goal of the project was to identify resources that may be impacted by the project. The cultural resource assessment did not identify any cultural resources within the project alignment. Impacts to cultural resources eligible for the California Register of Historical Resources and significant under the CEQA are not anticipated.

Potential impacts to adjacent historic sidewalk date stamps, historic street landscaping, and historic structures should be avoided during the design phase and should not occur. Existing sidewalk stamps shall be preserved in place. Where existing sidewalk stamps must be impacted to accommodate right-of-way improvements, the following actions are required:

1. A mold of the sidewalk stamp will be made to allow reconstruction of the stamp if destroyed during relocation.
2. The sidewalk stamp shall be saw-cut to preserve the stamp in its entirety; relocated as near as possible to the original location; and set in the same orientation.
3. If the sidewalk stamp is destroyed during relocation, a new sidewalk stamp shall be made from the mold taken and relocated as near as possible to the original location and set in the same orientation.

The potential for impacts to buried prehistoric cultural resources and historic-age refuse deposits is also present. Construction excavation monitoring by an archaeologist and Native American Monitor is recommended. The proposed project should result in no adverse effect to cultural resources.

VI. REFERENCES

Bean, Lowell J., and Charles R. Smith

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Campbell, Russell H., Chris J. Wills, Pamela J. Irvine, and Brian J. Swanson

- 2014 *Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangles, California*. U. S. Geological Survey.

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- 1962 *California's Gabrielino Indians*. Southwest Museum, Los Angeles.

Kroeber, Alfred L.

- 1925 *Handbook of the Indians of California*. Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institute, Washington, D.C.

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- 1984 *California Archaeology*. Academic Press.

Natural Resource Conservation Service (NRCS)

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Phillips, George Harwood

- 1975 *Chiefs and Challengers: Indian Resistance and Cooperation in Southern California*. University of California Press, Los Angeles.

Wiley, G. R., and P. Phillips

- 1958 *Method and Theory in American Archaeology*. University of Chicago Press.

APPENDICES

- A. Resume of Principal Investigator
- B. Records Search Confirmation
- C. Native American Consultation Correspondence

APPENDIX A

RESUME OF PRINCIPAL INVESTIGATOR

ANDREW R. PIGNIOLO, M.A., RPA
Principal Archaeologist
Laguna Mountain Environmental, Inc.

Education

San Diego State University, Master of Arts, Anthropology, 1992
San Diego State University, Bachelor of Arts, Anthropology, 1985

Professional Experience

2002-Present	Principal Archaeologist/President, Laguna Mountain Environmental, Inc., San Diego
1997-2002	Senior Archaeologist, Tierra Environmental Services, San Diego
1994-1997	Senior Archaeologist, KEA Environmental, Inc., San Diego
1985-1994	Project Archaeologist/Senior Archaeologist, Ogden Environmental and Energy Services, San Diego
1982-1985	Reports Archivist, Cultural Resource Management Center (now the South Coastal Information Center), San Diego State University
1980-1985	Archaeological Consultant, San Diego, California

Professional Affiliations

Register of Professional Archaeologists (RPA), 1992-present
Qualified Archaeology Consultant, San Diego County
Qualified Archaeology Consultant, City of San Diego
Qualified Archaeology Consultant, City of Chula Vista
Qualified Archaeology Consultant, Riverside County
Society for American Archaeology
Society for California Archaeology
Pacific Coast Archaeological Society
San Diego County Archaeological Society

Qualifications

Mr. Andrew Pignuolo is a certified archaeology consultant for the County and City of San Diego. Mr. Pignuolo has more than 38 years of experience as an archaeologist, and has conducted more than 800 projects throughout southern California and western Arizona. His archaeological investigations have been conducted for a wide variety of development and resource management projects including water resource facilities, energy utilities, commercial and residential developments, military installations, transportation projects, and projects involving Indian Reservation lands. Mr. Pignuolo has conducted the complete range of technical studies including archaeological overviews and management plans, ethnographic studies, archaeological surveys, test excavations, historical research, evaluations of significance under CEQA and Section 106, data recovery programs, and monitoring projects. He has received 40 hour HAZWOPPER training and holds an active card for hazardous material work.

REPRESENTATIVE PROJECTS

Proposed SDG&E Sunrise Powerlink Project, San Diego to Imperial Valley, California (*San Diego Gas and Electric*). Mr. Pigniolo served as the Principal Investigator and archaeological monitor for this project whose purpose is the installation of a new transmission line corridor running from San Diego to Imperial Valley. This phase of the project included the preliminary reporting of any cultural resources observed during field visits to the proposed impact areas. Mr. Pigniolo recorded sites encountered during monitoring, and collected GPS points and photographs of the sites for future review. Mr. Pigniolo also conducted the cultural resources portion of the environmental training for this project.

Princess Street Monitoring and Data Recovery Project at the Spindrift Site (*City of San Diego*). Mr. Pigniolo served as a Principal Investigator of an archaeological monitoring and data recovery program at the Spindrift Site in the community of La Jolla. The effort was initially to provide archaeological monitoring of a utility undergrounding project. The presence of the major prehistoric village site within the project alignment quickly became evident prior to construction monitoring and a data recovery plan was prepared prior to the start of work. Data recovery included the excavation of 25 controlled units and the water screening of 100 percent of the archaeological site material impacted during trenching. More than 40 fragmented human burials were encountered. Working with Native American monitors and representatives, the remains were repatriated.

Cultural Resource Survey, Geotechnical Monitoring, and Testing for the La Jolla View Reservoir Project, La Jolla, City of San Diego, California (*IEC*). Mr. Pigniolo served as Principal Investigator and conducted an archaeological survey on an approximately 15-acre study area, in the La Jolla Natural Park area on Mount Soledad above La. In addition to the field survey, geotechnical work was monitored by an archaeologist and Native American monitor. One small prehistoric cobble procurement site (CA-SDI-20843) was tested to determine site significance. Due to surface visibility constraints from dense vegetation, monitoring by an archaeological and a Native American monitor during construction excavation and grading was recommended to ensure sensitive features not identified during the survey are not present or impacted by the project.

City of San Diego Sever Group 783 Project, San Diego, California (*Orion Construction Company*.) Mr. Pigniolo was the Principal Investigator for an archaeological monitoring project for a sewer line replacement in the eastern portion of the City of San Diego. The project included archaeological construction monitoring in an urban environment.

Cultural Resource Monitoring and Treatment of CA-SDI-20861 for the 1941-1945 Columbia Street Project, City of San Diego, California (*Jeff Svitak Inc.*) Mr. Pigniolo served as Principal Investigator of an archival research and an archaeological and Native American monitoring program of building demolition and construction excavation for a multi-family dwelling in the Little Italy community of the City of San Diego. The project consisted of archaeological and historical research prior to fieldwork, archaeological monitoring of foundation removal and construction excavation, and the recovery and analysis of historic artifacts discovered during monitoring. Site CA-SDI-20861 was treated as a significant cultural resource and the recovery and analysis of the cultural material served as mitigation for the project impacts to the site.

Cultural Resource Salvage and Monitoring within a Portion of CA-SDI-39/17372 at 1891 Viking Way, La Jolla, City of San Diego, California (*Ayers General Contracting, Inc.*)

Mr. Pigniolo served as Principal Investigator of an archaeological salvage and documentation program in addition to construction monitoring for the residence located at 1891 Viking Way, in the La Jolla. The project included the demolition and replacement of an existing retaining wall, and the replacement of additional yard hardscape. The City of San Diego archaeologist determined that construction work was occurring within site CA-SDI-39 and required work to stop and a treatment plan to partially mitigate impacts to the site be prepared. The project included a salvage effort to partially mitigate impacts to this portion of the site, through documentation and artifact recovery and to recover any impacted human remains as part of mitigation. Three phases of treatment were conducted including a 100 percent recovery program for human remains and associated grave goods and monitoring of final construction disturbance and backfilling.

Muller Residence Archaeological Survey, Testing, and Evaluation, Carmel Valley, City of San Diego, California (*Mr. Rolf Muller*) Mr. Pigniolo served as Principal Investigator and Project Manager of a cultural resource survey and testing and evaluation program of a residential parcel proposed for development. The survey indicated the presence of a portion of a prehistoric shell midden within the project area. The testing program indicated a deeply buried archaeological deposit with a high level of integrity. Impact avoidance through redesign was recommended under City of San Diego Historical Resources Guidelines.

Cultural Resource Monitoring for The San Diego County Administration Center Waterfront Park Project, San Diego, California (*McCarthy Building Companies, Inc.*)

Mr. Pigniolo served as Principal Investigator of a cultural resource monitoring program for the Water Front Park Project at the San Diego County Administration Building in the City of San Diego. The monitoring program included excavation near the dredge fill/native ground contact. Historic maps indicated that the entire project area was located on man-made land created from bay dredge spoils. The monitoring program identified a small historic-age boat that probably sank in the bayfront prior to filling of the area. Based on the current County guidelines, this resource qualifies as significant for its information potential and has been treated as such. The boat was documented and avoided, and left in place.

13th and C Streets Evaluation Project, City of San Diego, California (*WM Builders*) Mr. Pigniolo served as Principal Investigator of a archaeological/historical resource assessment for a commercial development project in the City of San Diego. The project area is in the downtown portion of San Diego. A records search, literature review, examination of historic maps, records, and city directories was used to assess the potential for buried historic resources within the project area. Potential buried historic resource locations were identified and a testing plan was developed.

U. S. Army Yuma Proving Ground (YPG) Native American Consultation Plan, Yuma, Arizona (*Yuma Proving Ground*). Mr. Pigniolo served as principal author of a Native American consultation plan for YPG to provide guidance and information to U.S. Army commanders and Army resource managers at YPG for consultation with Native American groups. Consultation was conducted in a manner that is consistent with federal laws and regulations that mandate consultation and the consultation plan was designed to ensure the participation of Native American groups early in the planning process.

All American 105 Race Project, West Mesa, Imperial County, California (*Legacy 106, Inc.*).

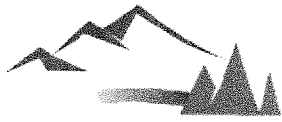
Mr. Pignuolo served as Principal Investigator, report author, and crew chief for an archaeological survey for a proposed off-road vehicle race course in the West Mesa area of Imperial County. The survey covered Bureau of Land Management (BLM) lands and included close coordination with BLM staff. The survey included a proposed 7.5 mile course with a very short time-frame. The goal was project alignment adjustment and realignment to avoid resource impacts where possible. A variety of prehistoric cultural resources including 10 sites and seven isolates were encountered. Human remains were identified and avoided. The race route was realigned to avoid significant resource impacts allowing the race to proceed on schedule.

Alpine Fire Safe Council Brush Management Monitoring Project, Alpine Region, San Diego County, California (*Alpine Fire Safe Council*)

Mr. Pignuolo served as Principal Investigator for a cultural resources monitoring and protection program on four project areas surrounding Alpine. Cultural resources identified during previous surveys within the vegetation treatment areas were flagged for avoidance. The project included hand clearing and chaparral mastication near residential structures to create a fire buffer zone. Vegetation removal was monitored to ensure cultural resources obscured by heavy vegetation were not impacted by the project and that all recorded cultural resources were avoided. The Bureau of Land Management served as Lead Agency for the project.

APPENDIX B

RECORDS SEARCH CONFIRMATION



Laguna Mountain Environmental, Inc.

March 6, 2019

Stacy St. James, Coordinator
South Central Coastal Information Center
Dept. of Anthropology, MH 477
CSU Fullerton
Po Box 6846
800 North State College Boulevard
Fullerton, CA 92834-6846

Re: Constraints Analysis for the Nevada Ave. and Bodger St. Area Pipeline Replacement Project, City of El Monte (Job #1823)

Dear Ms. St. James:

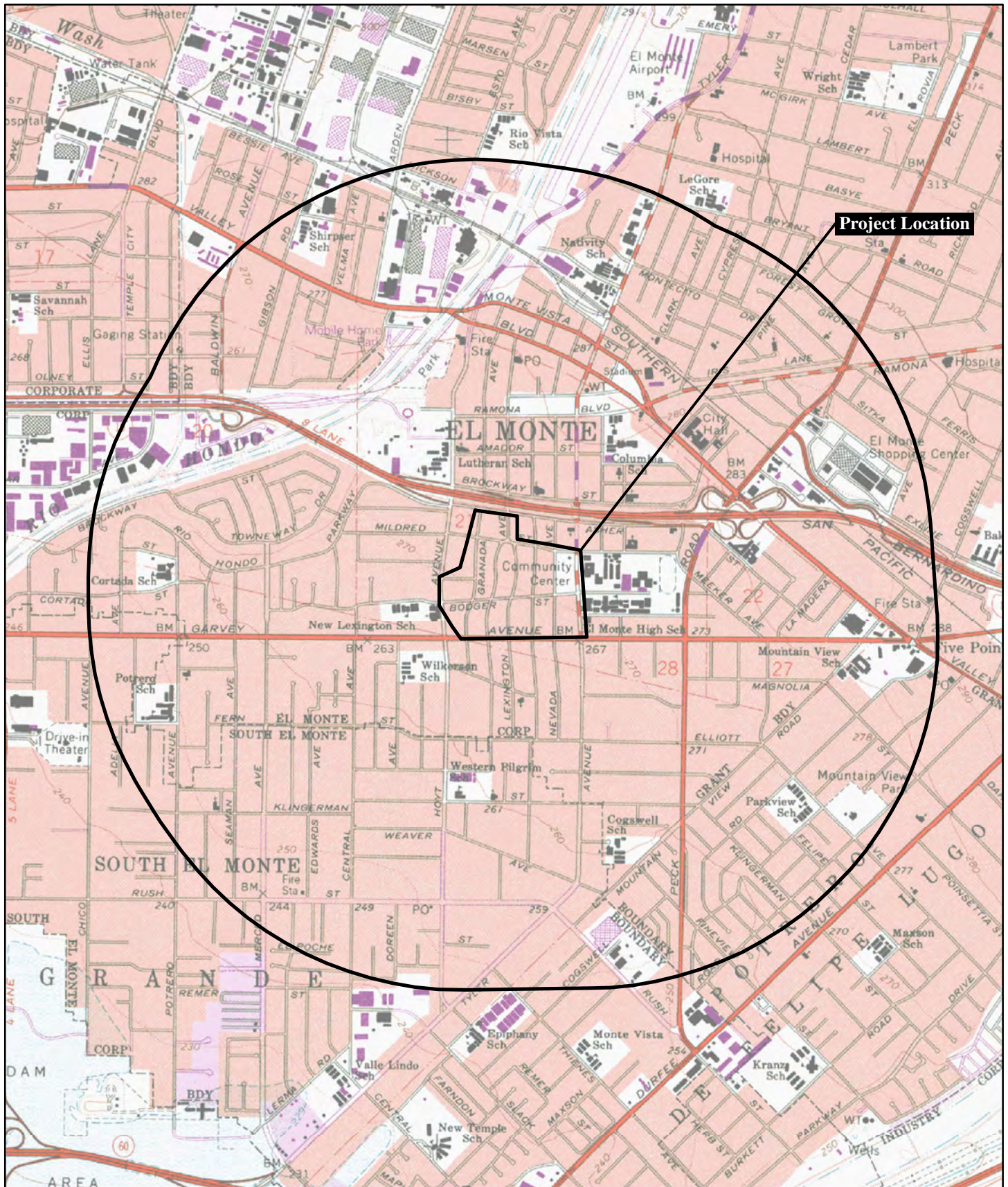
Laguna Mountain Environmental, Inc. requests an archaeological record search for an archaeological study to be performed within the City of El Monte as shown on the provided map and the 1-mile radius (buffer) of the project site. We also request a list of the corresponding NADB records for all reports within the 1-mile buffer of the project area, as well as any historic maps of the project area and information on any listed historic properties.

The constraints analysis is for a pipeline project that involves the replacement of existing, more than 50-year old, water and sewer pipelines in a suburban neighborhood located on the El Monte 7.5' USGS quadrangle, in Township 1 South, Range 11 West, within Section 21. The project area is located south of Interstate-10, north of Garvey Avenue, between Santa Anita Avenue and Tyler Avenue. The survey is being conducted for the City of El Monte.

Please contact me at (858) 505-8164 if you have any questions. Bill the regular record search to the address below. Thank you for your attention to this matter.

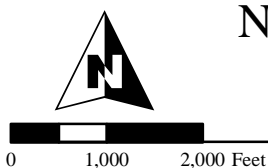
Sincerely,

Andrew R. Pignuolo, RPA
Principal Archaeologist
CHRIS Access Agreement #27



Source: USGS 7.5' El Monte Quadrangle

Nevada Ave & Bodger St Sewer Project Location and 1-mile Buffer



Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-00208		1976	Horne, Wiley	Letter Report of Archaeological Survey for a Los Angeles County Sanitation Dist. Project Engineer Report for Tyler Avenue Relief Trunk Sewer Section 2	University of California, Los Angeles Archaeological Survey	
LA-00217		1976	Hector, Susan M.	Archaeological Record Search for the Proposed Renovation and Addition to Lambert Park Or to Mountain View Park, City of El Mont		
LA-02871		1993	Wlodarski, Robert J. and Dan Larson	Department of Transportation Negative Archaeological Survey Report Dpd-ep-25 (revised 2/83) Interstate 10 (i-10) Between Baldwin Avenue in City of El Monte on the West and the Inbterchange Between I-10 and I-605	Historical, Environmental, Archaeological, Research, Team	
LA-04520		1999	Schmidt, James J.	Phase I Archaeological Survey: Business Incubator Facility, El Monte, California	Greenwood and Associates	
LA-05062		2000	Lapin, Philippe	Cultural Resource Assessment for Pacific Bell Wireless Facility La 950-02, County of Los Angeles, Ca	LSA Associates, Inc.	
LA-05468		2000	Duke, Curt	Cultural Resource Assessment for At&t Fixed Wireless Services Facility Number La_340_a, County of Los Angeles, California	LSA Associates, Inc.	
LA-05835				VOIDED		
LA-06318		2002	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Vy 120-02 Los Angeles County, California	LSA Associates, Inc.	
LA-06323		2000	Crippen, Donna	Historical Value of Residence Located at 11423 Medina Court in El Monte, California	Unknown	
LA-07183		2001	Smith, Philomene C.	Highway Project for Rehabilitation to the on and Off-ramps Along Route 10 From Los Angeles to El Monte	Caltrans District 7	
LA-07293		2003	Allen, Kathleen C.	Records Search for Bechtel Project #950023018c, Van Industrial, El Monte, California	Archaeological Resource Management Corp.	
LA-07943		2006	Billat, Lorna	Sbc El Monte, La-0297a	EarthTouch, Inc.	19-186110, 19-186112, 19-187368, 19-187369, 19-187370, 19-187371, 19-187372, 19-187373, 19-187901

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-08148		2006	Tang, Bai "Tom"	Historical Resources Survey Report Urban Transit Village Project, City of El Monte, Los Angeles County, California	CRM Tech	
LA-08215		2006	Lewis, Brandon S.	A Phase 1 Archaeological Resource Survey and Impact Evaluation for the Rio Hondo River Project, El Monte, California	Brandon S. Lewis	
LA-08216		2004	Tang, Bai "Tom", Michael Hogan, Casey Tibbet, and Josh Smallwood	Historical/archaeological Resources Survey Report El Monte Hyundai Project	CRM Tech	19-187368, 19-187369, 19-187370, 19-187371, 19-187372, 19-187373
LA-09237		2007	Bonner, Wayne H.	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate IE25752 (Quon Yick Noodle), Telstar Avenue, El Monte, Los Angeles County, California	Michael Brandman Associates	
LA-09659		2005	Tang, Bai, Michael Hogan, and Casey Tibbet	Historic-Period Building Survey, Santa Fe Trail Plaza Redevelopment Project, In the City of El Monte, Los Angeles County, California	CRM Tech	19-188409, 19-188410, 19-188411, 19-188412, 19-188413, 19-188414, 19-188415, 19-188416, 19-188417, 19-188418, 19-188419, 19-188420, 19-188421, 19-188422, 19-188423, 19-188424, 19-188425, 19-188426, 19-188427, 19-188428, 19-188429, 19-188430, 19-188431, 19-188432
LA-09795		2008	Jay Sander and Pamela Daly	Historic Property Survey Report: Union Pacific Railroad Bridge, Santa Anita Ave., El Monte, CA	Chambers Group, Inc.	19-186112, 19-188480
LA-10641		2010	Tang, Bai "Tom"	Preliminary Historical/Archaeological Resources Study, San Bernadino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties of Los Angeles and San Bernadino	CRM Tech	
LA-11180		2008	Daly, Panela	Bridge No. 53C-0897 Santa Anita Avenue under Union Pacific Railroad Seisnic Retrofit Project, County of Los Angeles Department of Public Works Environmental Services Task Order EP 07-003 Project I.D. No. RDC0012186	Chambers Group, Inc.	19-186112, 19-188480
LA-11266		2010	Shibata, Kazue	Section 106 Consultation for Clinic Renovations, 9960 Baldwin Place, El Monte, CA	Asian Pacific Health Care Venture, Inc.	
LA-11886		2012	Billat, Lorna	New Tower Submission Packet, Mecca Plaza	EarthTouch	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-11887		2012	Billat, Lorna	New Tower Submission Packet, Garvey Shopping Center	EarthTouch	
LA-11937		2012	McKenna, Jeanette	A Phase I Cultural Resources Investigation for Proposed Commercial Redevelopment on Arden Drive, Approximately 16.28 Acres of Land in the City of El Monte, Los Angeles County, California	McKenna et al	19-186527, 19-186565, 19-187072, 19-188409, 19-188410, 19-188411, 19-188412, 19-188413, 19-188414, 19-188415, 19-188416, 19-188417, 19-188418, 19-188419, 19-188420, 19-188421, 19-188422, 19-188423, 19-188424, 19-188425, 19-188426, 19-188427, 19-188428, 19-188429, 19-188430, 19-188431, 19-188432, 19-188433, 19-188434, 19-188435, 19-188436, 19-188437, 19-188480
LA-12131		2012	Bonner, Wayne and Crawford, Kathleen	Cultural Resources Records Search and Site Visit Result for T-Mobile West, LLC Candidate IE04037A (LA017 LA-017-01-PB) 3614 Center Avenue, El Monte, Los Angeles County, California	MBA	19-187901, 19-188431, 19-188432, 19-188433, 19-188480

APPENDIX C

NATIVE AMERICAN CONSULTATION CORRESPONDENCE

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Thursday, February 28, 2019 5:12 PM
To: 'nahc@nahc.ca.gov'
Subject: request for Sacred Lands Search - Nevada Ave. and Bodger St. Area Pipeline Survey
Attachments: 1823 Nevada&BodgerPipelineSurvey NAHC Request.pdf
Importance: High

Hello,

Please see the attached file.

We thank you in advance for your reply to this request.

If you have any questions or comment, please direct them to Andrew Pignuolo at 858-505-8164 or by e-mail at Laguna@LagunaEnv.com.

Carol Serr
Associate Archaeologist



7969 Engineer Rd., Suite 208
San Diego, CA 92111
858-505-8164

February 28, 2019

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

Subject: Pipeline Replacement Nevada Ave. and Bodger St. Area Survey Project, City of El Monte (Job #1823)

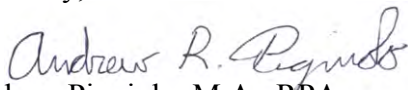
Dear Chairperson,

Laguna Mountain Environmental is conducting an archaeological survey project in the City of El Monte, Los Angeles County. The project involves the replacement of existing, more than 50-year old, water and sewer pipelines.

The project area is located south of Interstate-10, north of Garvey Avenue between Santa Anita Avenue and Tyler Avenue. The project area is shown on the El Monte 7.5' USGS quadrangle, in Township 1 South, Range 11 West, within Section 21 (see attached figure).

We respectfully request any information and input that you may have regarding Native American concerns either directly or indirectly associated with this project area. We would also appreciate a current list of appropriate Native American contacts for the area in order to elicit local concerns. If you or your files have any information about cultural resources or traditional cultural properties located on or near the project site, please contact me. If I can provide any additional information, please contact me immediately at (858) 505-8164. Thank you for your assistance.

Sincerely,

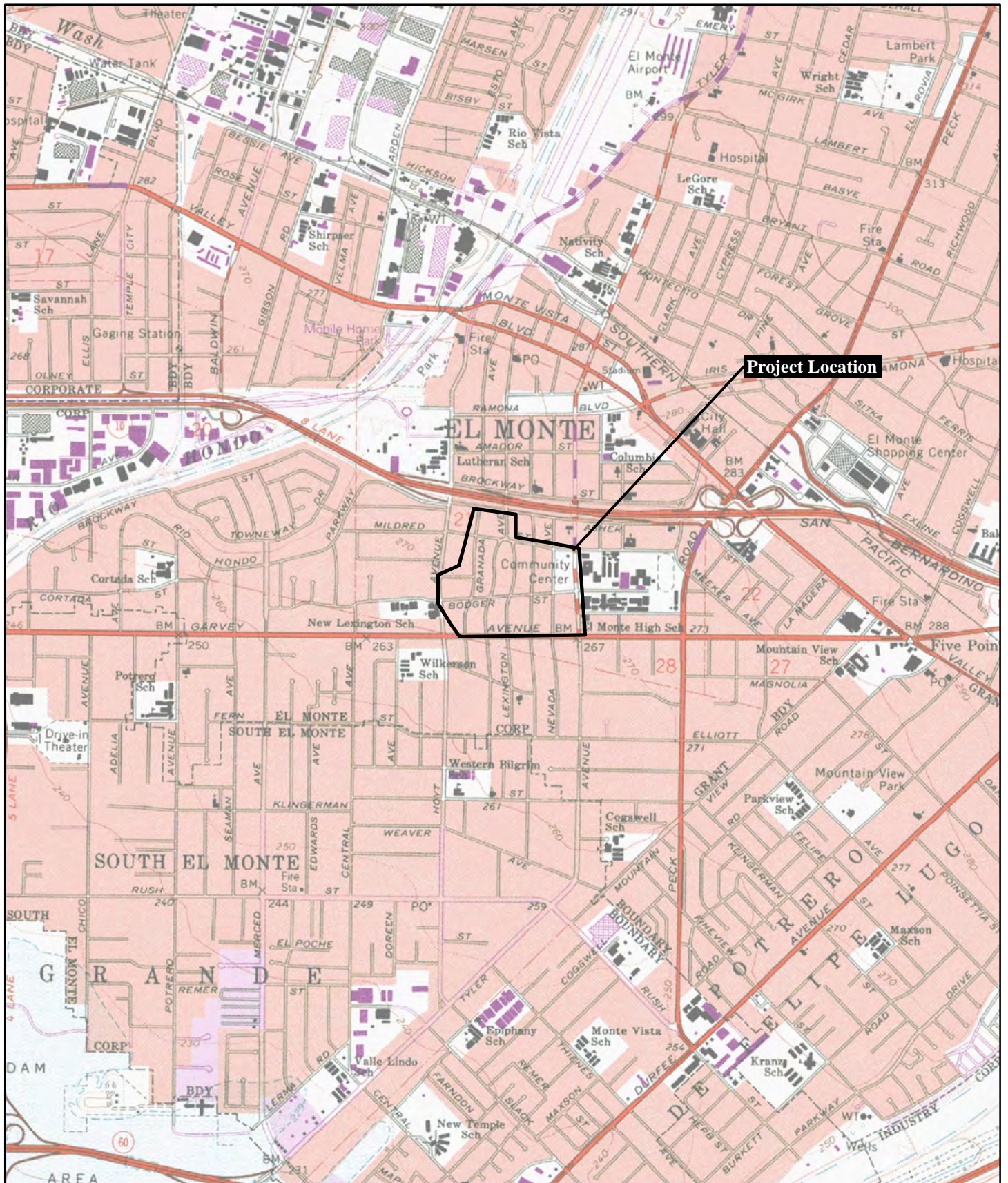


Andrew Pignuolo, M.A., RPA
Principal Archaeologist

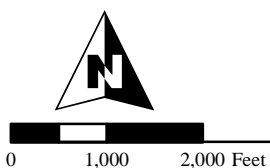
Attachments:

Project Location map

Sacred Lands File & Native American Contacts List Request Form



Source: USGS 7.5' El Monte Quadrangle



Project Location



Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: _____

County: _____

USGS Quadrangle

Name: _____

Township: _____ Range: _____ Section(s): _____

Company/Firm/Agency:

Contact Person: _____

Street Address: _____

City: _____ Zip: _____

Phone: _____ Extension: _____

Fax: _____

Email: _____

Project Description:

____ Project Location Map is attached

From: Quinn, Steven@NAHC <Steven.Quinn@nahc.ca.gov>

To: laguna@lagunaenv.com <laguna@lagunaenv.com>

Subject: Pipeline Replacement Nevada Ave. and Bodger St. Area Survey Project, Los Angeles County

Date: Thu, Mar 7, 2019 1:45 pm

Attachments: SLFYesPipelineReplacement 3.7.2019.pdf (182K), PipelineReplacement 3.7.2019.pdf (39K)

Good Afternoon,

Attached is the response to the project referenced above. If you have any additional questions, please feel free to contact our office email at nahc@nahc.ca.gov.

Regards,

Steven Quinn

Native American Heritage Commission

1550 Harbor Blvd., Suite 100

West Sacramento, CA 95691

Steven.Quinn@nahc.ca.gov

Direct Line: (916) 573-1033

Office: (916) 373-3710

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March 7, 2019

Andrew Pignuolo
Laguna Mountain Environmental

VIA Email to: laguna@lagunaenv.com

RE: Pipeline Replacement Nevada Ave. and Bodger St. Area Survey Project, Los Angeles County

Dear Mr. Pignuolo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the Gabrieleno Band of Mission Indians – Kizh Nation on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Steven Quinn". The signature is written in a cursive, flowing style.

Steven Quinn
Associate Governmental Program Analyst

Attachment

**Native American Heritage Commission
Native American Contact List
Los Angeles County
3/7/2019**

***Gabrieleno Band of Mission
Indians - Kizh Nation***

Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno

***Gabrieleno/Tongva San Gabriel
Band of Mission Indians***

Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrieleno

Gabrielino /Tongva Nation

Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St.,
#231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino

***Gabrielino Tongva Indians of
California Tribal Council***

Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino

Gabrielino-Tongva Tribe

Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Gabrielino

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Pipeline Replacement Nevada Ave. and Bodger St. Area Survey Project, Los Angeles County.

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Friday, March 08, 2019 1:12 PM
To: 'roadkingcharles@aol.com'
Subject: Input request - Nevada Ave. & Bodger St. Area Pipeline Replacement project, City of El Monte
Attachments: NevAve-BodgerStPipeline_CAlvarezNAContactLtr.pdf

Dear Councilman Alvarez,

Attached is a request for your input on our Nevada Ave. and Bodger St. Area Pipeline Replacement project located in the City of El Monte.

We thank you in advance for your reply to this request.

Please direct your comments to Andrew Pignuolo at 858-603-7809 (cell) or 858-505-8164 (office) or by e-mail at Laguna@LagunaEnv.com.



7969 Engineer Rd., Suite 208
San Diego, CA 92111

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Friday, March 08, 2019 1:08 PM
To: 'GTTribalcouncil@aol.com'
Subject: Input request - Nevada Ave. & Bodger St. Area Pipeline Replacement project, City of El Monte
Attachments: NevAve-BodgerStPipeline_AMoralesNAContactLtr.pdf

Dear Chairperson Morales,

Attached is a request for your input on our Nevada Ave. and Bodger St. Area Pipeline Replacement project located in the City of El Monte.

We thank you in advance for your reply to this request.

Please direct your comments to Andrew Pignuolo at 858-603-7809 (cell) or 858-505-8164 (office) or by e-mail at Laguna@LagunaEnv.com.



7969 Engineer Rd., Suite 208
San Diego, CA 92111

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Friday, March 08, 2019 1:13 PM
To: 'gtongva@gmail.com'
Subject: Input request - Nevada Ave. & Bodger St. Area Pipeline Replacement project, City of El Monte
Attachments: NevAve-BodgerStPipeline_RDorameNAContactLtr.pdf

Dear Chairperson Dorame,

Attached is a request for your input on our Nevada Ave. and Bodger St. Area Pipeline Replacement project located in the City of El Monte.

We thank you in advance for your reply to this request.

Please direct your comments to Andrew Pignuolo at 858-603-7809 (cell) or 858-505-8164 (office) or by e-mail at Laguna@LagunaEnv.com.



7969 Engineer Rd., Suite 208
San Diego, CA 92111

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Friday, March 08, 2019 1:10 PM
To: 'admin@gabrielenoindians.org'
Subject: Input request - Nevada Ave. & Bodger St. Area Pipeline Replacement project, City of El Monte
Attachments: NevAve-BodgerStPipeline_ASalasNAContactLtr.pdf

Dear Chairperson Salas,

Attached is a request for your input on our Nevada Ave. and Bodger St. Area Pipeline Replacement project located in the City of El Monte.

We thank you in advance for your reply to this request.

Please direct your comments to Andrew Pignuolo at 858-603-7809 (cell) or 858-505-8164 (office) or by e-mail at Laguna@LagunaEnv.com.



7969 Engineer Rd., Suite 208
San Diego, CA 92111

Carol Serr

From: Carol Serr [carol@lagunaenv.com]
Sent: Friday, March 08, 2019 1:15 PM
To: 'sgoad@gabrielino-tongva.com'
Subject: Input request - Nevada Ave. & Bodger St. Area Pipeline Replacement project, City of El Monte
Attachments: NevAve-BodgerStPipeline_SGoadNAContactLtr.pdf; NevAve-BodgerStPipelineLocation.pdf

Dear Chairperson Goad,

Attached is a request for your input on our Nevada Ave. and Bodger St. Area Pipeline Replacement project located in the City of El Monte.

We thank you in advance for your reply to this request.

Please direct your comments to Andrew Pignuolo at 858-603-7809 (cell) or 858-505-8164 (office) or by e-mail at Laguna@LagunaEnv.com.



7969 Engineer Rd., Suite 208
San Diego, CA 92111

APPENDIX D

Geotechnical Evaluation

Nevada Avenue and Bodger Street Area

Sewer Replacement Project

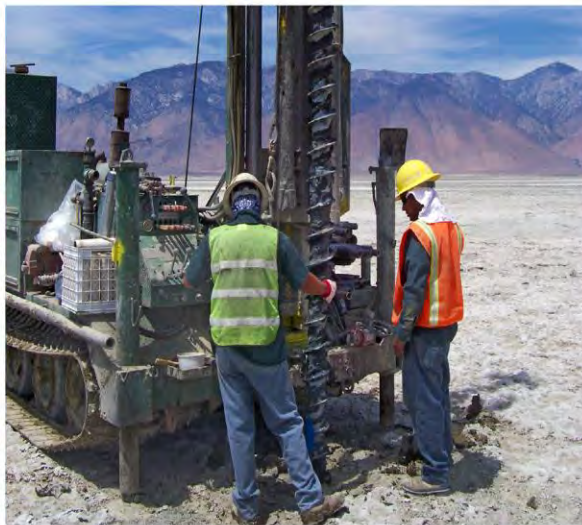
Capital Improvement Program No. 005

El Monte, California

Infrastructure Engineering Corporation

300 Spectrum Center Drive, Suite 400 | Irvine, California 92618

September 13, 2019 | Project No. 210803001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Geotechnical Evaluation

Nevada Avenue and Bodger Street Area
Sewer Replacement Project
Capital Improvement Program No. 005
El Monte, California

Ms. Sarita Lemons


Infrastructure Engineering Corporation

300 Spectrum Center Drive, Suite 400 | Irvine, California 92618

September 13, 2019 | Project No. 210803001

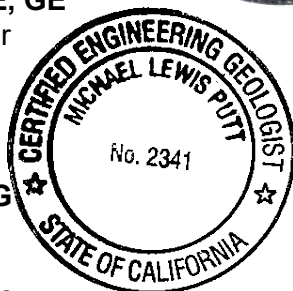

Spencer Marcinek, PE, GE
Senior Project Engineer




Daniel Chu, PhD, PE, GE
Chief Geotechnical Engineer




Michael Putt, PG, CEG
Principal Geologist



ECH/SCM/MLP/DBC/sc

Distribution: (1) Addressee (via e-mail)

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B – Laboratory Testing

1 INTRODUCTION

In accordance with your request and authorization, Ninyo & Moore has performed a geotechnical evaluation for the Nevada Avenue and Bodger Street Area Sewer Replacement Project (Capital Improvement Program [CIP] No. 005) in El Monte, California (Figure 1). Our services included evaluation of the soil and geologic conditions along the pipeline alignments and preparation of geotechnical recommendations for the design and construction of the new sewer pipelines. This report presents our geotechnical findings, conclusions, and recommendations for the project.

2 SCOPE OF SERVICES

Our scope of services was performed in accordance with our proposals dated March 23, 2018, and May 6, 2019, and included the following:

- Project coordination, planning, and scheduling of the subsurface exploration.
- Review of readily available background material, including published geologic maps, fault and seismic hazards maps, groundwater data, topographic maps, stereoscopic aerial photographs, and project-related plans provided by the client.
- Permit acquisition from the City of El Monte Public Works Department for encroachment in the City right-of-ways.
- Permit acquisition from the Los Angeles County Department of Public Health for performing borings deeper than 10 feet.
- A field reconnaissance to observe and document the existing site conditions and to mark the boring locations for utility clearance by Underground Service Alert.
- Subsurface exploration consisting of the drilling, logging, and sampling of ten hollow-stem auger boring to depths ranging from approximately 20.7 to 23 feet below the ground surface. The borings were logged by a representative of our firm and bulk and relatively undisturbed soil samples were collected at selected intervals for laboratory testing.
- Laboratory testing of selected samples to evaluate in-place moisture and density, gradation, percentage of particles finer than the No. 200 sieve, Atterberg limits, direct shear strength, and soil corrosivity.
- Data compilation and engineering analysis of the information obtained from our background review, subsurface evaluation, and laboratory testing.
- Preparation of this geotechnical report presenting our findings, conclusions, and recommendations for design and construction of the proposed improvements.

3 SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The proposed Nevada Avenue and Bodger Street Area Sewer Replacement Project is located in a residential neighborhood in El Monte, California (Figure 1). The project area is bordered by

Mildred Street, residential properties and Interstate 10 to the north, Tyler Avenue and El Monte High School to the east, East Garvey Avenue and residential properties to the south, and North Santa Anita Avenue and residential properties to the west. The Rio Hondo tributary of the Los Angeles River is located approximately ½ mile northwest of the project area. The streets are two-lane roads and consist of asphalt concrete and Portland cement concrete pavement. Ground elevations range from approximately 260 to 270 feet above mean sea level (Google, 2019). The topography of the project area is relatively flat and slopes gently down to the southwest.

The existing sewer pipelines and manholes in the Nevada Avenue and Bodger Street area were constructed in 1938 and are approaching the end of their useful life. Some of the sewer pipelines traverse private properties which makes access to the pipelines difficult for inspection, cleaning, and debris removal. The City of El Monte plans to replace and relocate existing sewer pipelines and manholes within the area of Nevada Avenue and Bodger Street into the public right-of-way. The existing sewer pipelines consist of 6 to 12-inch diameter vitrified clay pipelines and are up to approximately 10 feet deep.

Detailed construction drawings were not available for our review. However, based on our review of the conceptual design alternative No. 3, the proposed sewer alignments will be approximately 5,500 linear feet in length and the pipelines may consist of approximately 8 to 12-inch diameter polyvinyl chloride pipes (Infrastructure Engineering Corporation, 2019a). Depths of the new pipelines will range from approximately 5 to 13 feet below the ground surface. The proposed new sewer pipelines will be located on portions of Mildred Street, Nevada Avenue, Washington Avenue, Lexington Avenue, Gage Avenue, Granada Avenue, Bodger Street, and Laurelhurst Drive. New sewer laterals will also be constructed for each of the affected residential properties and will connect to the new sewer mains. Figure 2 presents a site plan of the project and indicates the proposed locations of the new sewer pipelines and the existing sewer pipelines to be abandoned.

4 SUBSURFACE EVALUATION AND LABORATORY TESTING

Our subsurface evaluation was conducted on March 21, March 22, and August 8, 2019, and consisted of the drilling, logging, and sampling of ten small-diameter borings to depths ranging from approximately 20.7 to 23 feet below the ground surface. The exploratory borings were drilled using truck-mounted drilling equipment with 8-inch diameter hollow-stem augers. The approximate locations of the borings are shown on Figure 2. The borings were logged by a representative from our firm and bulk and relatively undisturbed soil samples were obtained at

selected depth intervals for laboratory testing. Logs of the exploratory borings are presented in Appendix A.

Laboratory testing was performed to evaluate in-place moisture and density, gradation, percentage of particles finer than the No. 200 sieve, Atterberg limits, direct shear strength, and soil corrosivity. Moisture and density test results are presented on the boring logs in Appendix A. The remaining test results are presented in Appendix B.

For the purpose of characterizing the auger cuttings prior to disposal off-site, a composite sample of the on-site soils was collected in glass jars, placed into a chilled container, and submitted to SunStar Laboratories, Inc., a state-certified laboratory for analysis. The soil sample was analyzed for the presence of Total Petroleum Hydrocarbons, Title 22 Metals, and Volatile Organic Compounds in general accordance with United States Environmental Protection Agency Methods 8015B, 6010B/7471A, and 8260B, respectively. The soil sample was classified as non-hazardous waste and the drums were disposed of at a legal landfill facility.

5 GEOLOGY AND SUBSURFACE CONDITIONS

5.1 Regional Geology

The subject site is located in the northeastern portion of the Los Angeles Basin, which is situated at the confluence of the Peninsular Ranges and Transverse Ranges geomorphic provinces of southern California (Norris and Webb, 1990). The Los Angeles Basin has been divided into four structural blocks, which are generally bounded by prominent fault systems: The Northwestern Block, the Southwestern Block, the Central Block, and the Northeastern Block. The site is located in the Northeastern Block, which is bordered by the San Gabriel Mountains on the north, the Chino basin on the east, the Whittier fault zone on the south and the Raymond fault on the northwest.

The predominant structural feature of the northeastern block is a deep synclinal basin that contains mostly marine Cenozoic sedimentary rocks along with some Miocene volcanic rocks. The basement rocks are as much as 12,000 feet below the surface in the central part of the San Gabriel Valley (Norris and Webb, 1990). The northeastern block receives sediment from various drainages within and adjacent to the present and past courses of the Los Angeles, Rio Hondo, and San Gabriel Rivers and their tributaries. These drainages have deposited variable thicknesses of alluvial materials over the basin that were derived from the erosion of the nearby mountains.

5.2 Site Geology

The subject site is situated within a relatively flat alluvial fan in the San Gabriel Valley, east of Los Angeles. Geologic mapping by Dibblee (1999) indicates that the site is underlain by Holocene-age alluvial fan deposits generally consisting of gravel, sand, and silt of valleys and floodplains. Based on our subsurface evaluation, the borings generally encountered pavement sections underlain by alluvium. Generalized descriptions of the materials encountered during our subsurface evaluation are presented below. More detailed descriptions are shown on the boring logs in Appendix A.

5.2.1 Pavement Sections

During our subsurface evaluation, measurements of the existing pavement sections were obtained at boring locations B-1 through B-10. The pavement sections encountered generally consisted of asphalt concrete or Portland Cement Concrete with aggregate base. However, aggregate base was not encountered at two locations. The aggregate base generally consisted of moist, medium dense, silty gravel. Table 1 presents a summary of the existing pavement structural sections encountered in our exploratory borings. Variable thicknesses should be anticipated.

Table 1 – Existing Pavement Sections				
Boring No.	Street	Asphalt Concrete (inches)	Portland Cement Concrete (inches)	Aggregate Base (inches)
B-1	Mildred Street	--	3.0	--
B-2	Nevada Avenue	5.0	--	4.0
B-3	Nevada Avenue	5.0	--	5.0
B-4	Washington Avenue	--	3.0	--
B-5	Lexington Avenue	5.0	--	1.0
B-6	Gage Avenue	5.0	--	6.0
B-7	Laurelhurst Drive	6.0	--	3.0
B-8	Bodger Street	4.0	--	2.0
B-9	Granada Avenue	3.0	--	1.0
B-10	Mildred Street	4.0	--	7.0

5.2.2 Alluvium

Alluvium was encountered beneath the pavement sections in each of the borings to the depths explored of up to approximately 23 feet. The alluvium generally consisted of dry to moist, loose to very dense, silty sand, poorly graded sand, and sandy silt with variable amounts of gravel, and very soft to very stiff, silt. Detailed descriptions of the subsurface materials are presented on the boring logs in Appendix A.

6 GROUNDWATER

Groundwater was not encountered in our exploratory borings during our subsurface evaluation to the depths explored of up to approximately 23 feet below the ground surface. Regional maps indicate that the historic high groundwater at the site is mapped at depths between 5 and 10 feet below the ground surface (California Geological Survey [CGS], 1998b). Groundwater monitoring well data from the State of California Department of Water Resources website (2019) indicates that the depth to groundwater at three monitoring wells located within a ½-mile radius from the pipeline alignments ranges from approximately 51 to 96 feet below the ground surface. Fluctuations in the level of groundwater will occur due to variations in ground surface topography, subsurface stratification, rainfall, irrigation practices, groundwater pumping, and other factors which may not have been evident at the time of our field evaluation.

7 FAULTING AND SEISMICITY

The proposed sewer pipelines are located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion in the project area is considered significant during the design life of the sewer pipelines. The numerous faults in southern California include active, potentially active, and inactive faults. As defined by the CGS, active faults are faults that have ruptured within Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years.

The approximate locations of major faults in the site vicinity and their geographic relationship to the site are shown on Figure 3. The sewer pipeline alignments do not cross a State of California Earthquake Fault Zone formerly known as an Alquist-Priolo Special Studies Zone) (CGS, 2017). The Upper Elysian Park fault, the nearest active fault, is mapped approximately 3.5 miles southwest of the project area (United States Geological Survey [USGS], 2008)

Table 2 lists selected principal known active faults that may affect the project area, the approximate fault-to-site distances, and the maximum moment magnitudes (M_{max}) of the faults (USGS, 2008). For the purpose of this report, we calculated the ground motion parameters at a central location of the project area, near the intersection of Bodger Street and Lexington Avenue.

Table 2 – Principal Active Faults		
Fault	Fault to Site Distance miles (kilometers)	Maximum Moment Magnitude (M_{max})
Elysian Park (Upper)	3.5 (5.7)	6.7
Elsinore	4.8 (7.7)	7.9
Raymond	5.1 (8.2)	6.8

Table 2 – Principal Active Faults

Fault	Fault to Site Distance miles (kilometers)	Maximum Moment Magnitude (M_{max})
Sierra Madre	7.3 (11.8)	7.3
Verdugo	8.1 (13.0)	6.9
Clamshell-Sawpit	8.1 (13.1)	6.7
Puente Hills (Los Angeles)	8.3 (13.3)	7.0
Puente Hills (Santa Fe Springs)	9.3 (14.9)	6.7
San Jose	9.3 (15.0)	6.7
Hollywood	11.6 (18.7)	6.7
San Andreas	28.2 (45.3)	8.2

The principal seismic hazards evaluated at the subject site are surface fault rupture, ground motion, and liquefaction. A brief description of these hazards and the potential for their occurrences on site are discussed below.

7.1 Surface Fault Rupture

Based on our review of the referenced literature and our site reconnaissance, no active faults are known to cross the project site. Therefore, the probability of damage from surface fault rupture is considered to be low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

7.2 Ground Motion

The 2016 California Building Code (CBC) specifies that the Risk-Targeted, Maximum Considered Earthquake (MCE_R) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. The MCE_R ground motion response accelerations are based on the spectral response accelerations for 5 percent damping in the direction of maximum horizontal response and incorporate a target risk for structural collapse equivalent to 1 percent in 50 years with deterministic limits for near-source effects. For the purpose of this report, we calculated the ground motion parameters at a central location of the project area, near the intersection of Bodger Street and Lexington Avenue. The horizontal peak ground acceleration (PGA) that corresponds to the MCE_R for the project area was calculated as 0.87g using the Structural Engineers Association of California and the California Office of Statewide Health Planning and Development (SEAOC and OSHPD, 2019) seismic design tool (web-based).

7.3 Liquefaction Potential

Liquefaction is the phenomenon in which loosely deposited granular soils with silt and clay contents of less than approximately 35 percent and non-plastic silts located below the water table undergo rapid loss of shear strength when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to

a rapid rise in pore water pressure, and causes the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking.

The State of California Seismic Hazard Zone Map (CGS, 1999) indicates that the sewer pipeline alignments are located within an area considered to be susceptible to seismically induced liquefaction. The sewer pipeline alignments do not include structures for human occupancy and evaluation of the liquefaction potential at the site was not within the scope of our services for this study.

8 CONCLUSIONS

Based on the results of our evaluation, it is our opinion that construction of the sewer pipelines is feasible from a geotechnical perspective, provided the recommendations presented in this report are incorporated into the design and construction of the project. The primary geotechnical consideration for the project is the stability of the temporary excavations that will be needed to construct the new sewer main pipelines, manholes, and sewer laterals. The near-surface soils are generally loose or soft, have little cohesion, and will be subject to caving. We anticipate that deeper excavations for the sewer main pipelines and manholes within the streets will be shored due to limited space for sloped trench excavations and the need to protect other utilities during construction.

We understand that new sewer laterals will be installed for the residential properties; however, the point of connection for the residential properties was not available for our review at the time of this report. We anticipate that either 1) the connection point may be located in the rear yard areas of the residences since the main lines that will be abandoned are located at the rear of the properties or 2) the connection point may be made in the crawl spaces beneath the existing residential buildings that are of raised floor construction.

If the connection point will be made within the rear yard areas, we anticipate that trenching will be performed along the residential property side yard boundaries (i.e. parallel to and between the houses). The need for trench shoring to construct the sewer laterals should be evaluated on a case by case basis and will depend on the depth of the pipeline and the proximity of the trench to the residential buildings or other improvements that will be protected in-place. For planning purposes, shoring should be used where the depths of the trench excavation extend below an imaginary 1:1 (horizontal to vertical) plane projected downward from the bottom edge of the

building/wall foundation(s) that will be protected in-place to the bottom of the sewer lateral trench. If details regarding the residential building foundations or foundations for other improvements to be protected are not available, potholing by the contractor during construction to evaluate the depths of the existing foundations should be performed to evaluate the need for shoring.

In general, the following additional conclusions were made:

- The site is underlain by alluvial materials consisting predominantly of dry to moist, loose to very dense, silty sand, poorly graded sand, and sandy silt, and very soft to very stiff, silt. Occasional gravel was also encountered and should be anticipated during construction.
- Excavation of the on-site soils should be feasible with earthmoving equipment in good working order. We anticipate that excavated soils should be generally suitable for use as compacted fill provided they are free of trash, debris, roots, vegetation, deleterious materials, and cobbles or hard lumps of material in excess of 4 inches in diameter.
- Some of the site soils are relatively loose or soft depending on the depth and may not be stable to support the new pipeline. Unstable bottom conditions may involve recompacting the trench bottom or overexcavation and replacement with gravel wrapped in geofabric beneath the bottom of the excavation.
- Some of the soils encountered in the exploratory borings have relatively high moisture contents. These materials may involve drying back or blending with drier soils in order to achieve near-optimum moisture contents for re-use as compacted trench backfill.
- On-site soils should be considered as Type C soils in accordance with Occupational Safety and Health Administration (OSHA) soil classifications. Temporary shoring should be provided in accordance with OSHA regulations. The granular soils encountered at the site have little cohesion and may be subject to caving.
- Existing utilities and structures are present along the project alignment that will involve protecting in-place during construction. Temporary shoring should be designed to reduce the potential movement of exposed cuts and damage to the nearby structures and utilities.
- Groundwater was not encountered at the site to the depth explored of approximately 23 feet. However, historical high groundwater levels have been mapped between 5 and 10 feet below the ground surface. However, based on our borings and relatively recent groundwater data within approximately ½ mile of the site, groundwater is not expected to impact the design of the improvements. However, some groundwater seepage may be encountered during construction and should be anticipated.
- The sewer pipeline alignments are located within an area mapped by the State of California (CGS, 1999), as being susceptible to earthquake-induced liquefaction. Soil liquefaction during a significant earthquake event could result in pipeline damage. Mitigation measures to reduce damage to pipelines from liquefaction may include flexible pipeline material or flexible joints.
- The subject site is not located within a State of California Earthquake Fault Zone (formerly known as an Alquist-Priolo Special Studies Zone). Based on our review of published geologic maps, there are no known active faults underlying the site. Therefore, the potential for surface fault rupture at the site is considered to be low.

- The horizontal PGA that corresponds to the MCE_R for the site was calculated as 0.87g.
- Our laboratory corrosion testing indicates that the near-surface site soils can be classified a non-corrosive based on California Department of Transportation (Caltrans, 2018) corrosion guidelines.

9 RECOMMENDATIONS

The following sections present our geotechnical recommendations for construction of the proposed improvements. These recommendations are based on our evaluation of the site geotechnical conditions and our understanding of the proposed construction. The proposed construction should be performed in accordance with the requirements of the City of El Monte and other applicable governing agencies.

9.1 Earthwork

Earthwork is anticipated to consist of site clearing, open cut-and-cover trenching, and trench backfilling. Earthwork should be performed in accordance with the requirements of the appropriate governing agencies, and the recommendations presented below.

9.1.1 Pre-Construction Conference

We recommend that the project plans be submitted to Ninyo & Moore for review to evaluate conformance to the geotechnical recommendations provided in this report. We further recommend that a pre-construction conference be held in order to discuss the grading recommendations presented in this report. The owner and/or their representative, the governing agencies' representatives, the civil engineer, Ninyo & Moore, and the contractor should be in attendance to discuss the work plan, project schedule, and earthwork requirements.

9.1.2 Site Preparation

Prior to performing the site excavations, the project area should be cleared of pavements and other deleterious materials. Existing utilities within the project limits should be re-routed or protected from damage by construction activities. Obstructions that extend below finish grade, if any, should be removed and the resulting holes filled with compacted soils. Materials generated from the clearing operations should be removed from the project site and disposed at a legal dumpsite.

9.1.3 Excavation Characteristics

Based on our subsurface exploration and experience, we anticipate that excavations within the soils at the site may be accomplished with heavy earthmoving equipment, including

backhoes, excavators, or other trenching equipment in good condition. Hand excavations may also be needed to install new laterals in some areas where there is limited space for heavy earthmoving equipment. We anticipate that the materials at the project site will generally consist of dry to moist, loose to very dense, silty sand, poorly graded sand, and sandy silt, and very soft to very stiff, silt. Scattered gravel was also encountered in the on-site soils.

9.1.4 Temporary Excavations and Shoring

As discussed in Section 8, shoring is anticipated for deeper sewer main pipeline construction within the streets and shoring may also be needed for the sewer laterals depending on the point of connection to the residences. Shoring is also appropriate if seepage or groundwater is encountered.

Temporary near-vertical excavations not exceeding a depth of approximately 4 feet should be feasible provided that the excavation does not extend below a 1:1 (horizontal to vertical) plane projected from the outside, bottom edge of building foundation (or other foundations for residential structures), that will be protected in-place. Excavations that are unstable or deeper than 4 feet should be laid back to slope inclinations of approximately 1½:1 (horizontal to vertical) or flatter. For deeper excavations or where temporary slopes are not possible, excavations that encounter significant seepage or groundwater, or excavations that could potentially undermine existing improvements, shoring will be involved. Excavations should be performed in accordance with OSHA regulations. On-site soils should be considered as Type C soils in accordance with OSHA guidelines.

Braced and cantilever shoring systems should be designed for the anticipated soil conditions using the lateral earth pressure values shown on Figures 4 and 5, respectively. The recommended design pressures are based on the assumption that the shoring system is constructed without raising the ground surface elevation behind the shored sidewalls of the excavation, that there are no surcharge loads, such as soil stockpiles and construction materials, and that no loads act above a 1:1 (horizontal to vertical) plane ascending from the base of the shoring system. For a shoring system subjected to the above-mentioned surcharge loads, the contractor should include the effect of these loads on the lateral earth pressures acting on the shored walls.

The selection of shoring systems and construction installation should also consider the protection of adjacent improvements. The materials along the alignment have a potential for

caving and shoring systems should be installed and removed such that adjacent improvements are not left unsupported.

We anticipate that settlement of the ground surface will occur behind the shored excavation. The amount of settlement depends heavily on the type of shoring system, the contractor's workmanship, and soil conditions. To reduce the potential for distress to adjacent improvements, we recommend that the shoring system be designed to limit the ground settlement behind the shoring system to ½ inch or less.

The contractor should retain a qualified and experienced engineer to design the shoring system. The shoring parameters presented in this report are minimum requirements, and the contractor should evaluate the adequacy of these parameters and make the appropriate modifications for their design. We recommend that the contractor take appropriate measures to protect workers. OSHA requirements pertaining to worker safety should be observed.

9.1.5 Excavation Bottom Stability

In general, we anticipate that the excavation bottom for the pipeline will be relatively stable and should provide suitable support for the sewer replacement operations. However, some relatively soft soils were encountered in borings B-4, B-6, and B-7. Excavations that expose soft/loose alluvium or encounter seepage or perched groundwater may be unstable. Some soils with high moisture contents may also be unstable. In general, unstable bottom conditions may involve recompacting the trench bottom, or overexcavation the soft/loose soils and replacement with gravel wrapped in geofabric or a compacted fill mat beneath the bottom of the excavation to thicknesses of approximately 1 to 2 feet. Recommendations for stabilizing excavation bottoms should be based on evaluation in the field by a representative of Ninyo & Moore at the time of construction.

9.1.6 Construction Dewatering

Our background review indicates that historical high groundwater levels have been mapped between 5 and 10 feet below the ground surface; however, groundwater and/or seepage were not encountered during our subsurface evaluation. Furthermore, relatively recent groundwater data near the site indicates that groundwater is more than 50 feet deep. Due to the historically shallow depth to groundwater, encountering groundwater is a possibility and the contractor should anticipate encountering seepage and/or groundwater during excavation.

If groundwater is encountered during excavation for the pipelines, the excavations may be potentially dewatered by overexcavating the subgrade soils and replacing the excavated soils

with crushed rock, which will allow water to migrate through the rock to a point that it can be removed with a sump pump. Planned excavations should be evaluated with regard to dewatering and anticipated stabilization of excavation bottoms. The equipment and sequence of excavations should be planned to reduce the potential for bottom disturbance and pumping conditions.

Disposal of groundwater should be performed in accordance with Regional Water Quality Control Board guidelines. Design of the groundwater control system is the responsibility of the contractor. Prior to dewatering, water quality testing should be performed for acceptance to discharge into the sewer system. During dewatering, groundwater should be monitored and tested for potential contaminants from off-site sources. Details regarding the monitoring and testing frequency should be based on the contractors' means and methods.

9.1.7 Fill Material

In general, the on-site soils should be suitable for reuse as fill materials provided they are free of trash, debris, roots, contamination, oversize materials, or other deleterious materials. Fill should generally be free of rocks or lumps of material in excess of 4 inches in diameter. Rocks or hard lumps larger than approximately 4 inches in diameter should be broken into smaller pieces or should be removed from the site.

Imported soil should consist of clean, granular material that generally meets Standard Specifications for Public Works Construction (Greenbook) criteria for structure backfill. The soil should also be tested for corrosive properties prior to importing. We recommend that the imported materials meet the Caltrans (2018) criteria for non-corrosive soils (i.e., soils having a chloride concentration of 500 parts per million (ppm) or less, a soluble sulfate content of approximately 0.15 percent (1,500 ppm) or less, a pH value of 5.5 or higher, and a resistivity of 1,100 ohm-centimeters [ohm-cm] or higher). Materials for use as fill should be evaluated by the project geotechnical consultant prior to importing. The contractor should be responsible for the uniformity of import material brought to the site.

9.1.8 Fill Placement and Compaction

Fill material, including trench backfill, should be moisture conditioned and compacted in horizontal lifts to a relative compaction of 90 percent or more as evaluated by ASTM International (ASTM) D 1557. Fill material should be moisture-conditioned to slightly above the laboratory optimum moisture content. Some of the site soils have relatively high moisture contents and may involve drying back or blending with drier soils to achieve suitable moisture contents for use as compacted fill. The lift thickness for fill soils will depend on the type of

compaction equipment used but generally should not exceed 8 inches in loose thickness. Special care should be exercised to avoid damaging pipes during compaction of trench backfill. Placement and compaction of the fill soils should be in general accordance with local grading ordinances and good construction practice.

Aggregate base materials beneath pavements should be compacted to a relative compaction of 95 percent or more as evaluated by ASTM D 1557. Aggregate base materials should generally be moisture conditioned to slightly above the optimum laboratory moisture content.

9.1.9 Pipe Bedding

We recommend that pipes be supported on 6 inches or more of granular bedding material. Bedding material should be placed around pipe zones to 12 inches or more above the top of the pipe in accordance with the current “Greenbook” Standard Specifications for Public Works. The bedding material should be classified as sand, should be free of organic material, and have a sand equivalent of 30 or more. It has been our experience that the voids within gravel material are sufficiently large to allow fines to migrate into the voids, thereby creating the potential for sinkholes and depressions to develop at the ground surface.

Special care should be taken not to allow voids beneath and around the pipe. Compaction of the bedding material and backfill should proceed along both sides of the pipe concurrently. Trench backfill, including bedding material, should be placed and compacted with mechanical equipment in accordance with the recommendations presented in the Earthwork section of this report.

9.1.10 Modulus of Soil Reaction

The modulus of soil reaction is used to characterize the stiffness of soil backfill placed on the sides of buried flexible pipelines for the purpose of evaluating lateral deflection caused by the weight of the backfill above the pipe. We recommend that a modulus of soil reaction of 400 pounds per square inch be used for design, provided that granular bedding material is placed adjacent to the pipe, as recommended in this report.

9.2 Corrosivity

Laboratory testing was performed on representative soil samples to evaluate pH, electrical resistivity, water-soluble chloride content, and water-soluble sulfate content. The soil pH and electrical resistivity tests were performed in general accordance with California Test Method (CT) 643. Chloride content testing was performed in general accordance with CT 422. Sulfate content

testing was performed in general accordance with CT 417. The laboratory test results are presented in Appendix B.

The pH of the tested samples ranged from approximately 7.6 to 7.8 and the electrical resistivity ranged from approximately 2,055 to 6,783 ohm-cm. The chloride content of the samples ranged from approximately 30 to 70 ppm. The sulfate content of the samples ranged from approximately 0.001 to 0.011 percent (i.e., 10 to 110 ppm). Based on the laboratory results and Caltrans (2018) corrosion criteria, the project site can be classified as non-corrosive, which is defined as having earth materials with less than 500 ppm chlorides, less than 0.15 percent sulfates (i.e., 1,500 ppm), a pH of 5.5 or more, or an electrical resistivity of 1,100 ohm-cm or more. If corrosion-susceptible improvements are planned on site, we recommend that a corrosion engineer be consulted for further evaluation and recommendations.

9.3 Concrete Placement

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. Based on the CBC (2016), the potential for sulfate attack is negligible for water-soluble sulfate contents in soil ranging from 0.00 to 0.10 percent by weight, moderate for water-soluble sulfate contents ranging from 0.10 to 0.20 percent by weight, severe for water-soluble sulfate contents ranging from 0.20 to 2.00 percent by weight, and very severe for water-soluble sulfate contents over 2.00 percent by weight. The soil samples tested for this evaluation, using Caltrans Test Method 417, indicate a water-soluble sulfate content ranging from approximately 0.001 to 0.005 percent by weight (i.e., 10 to 50 ppm). Accordingly, the on-site soils are considered to have a negligible potential for sulfate attack. However, due to the potential variability of the on-site soils, consideration should be given to using Type II/V cement for the project.

In order to reduce the potential for shrinkage cracks in the concrete during curing, we recommend that the concrete for the proposed improvements, if applicable, be placed with a slump of 4 inches based on ASTM C 143. The slump should be checked periodically at the site prior to concrete placement. We further recommend that concrete cover over reinforcing steel be provided in accordance with CBC (2016). The structural engineer should be consulted for additional concrete specifications.

9.4 Pavement Reconstruction

Trenching within the street right-of-ways will result in the replacement of pavement for the project. In general, pavement repair should conform to the material and compaction requirements of the adjacent pavement sections. Aggregate base material should conform to the latest specifications

in Section 2002.2 for crushed aggregate base or Section 2002.4 for crushed miscellaneous base of the Greenbook and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1557. Asphalt concrete should conform to Section 2036 of the Greenbook and should be compacted to a relative compaction of 95 percent in accordance with ASTM D 1560 or CT 304. Actual pavement reconstruction should conform to the requirements of the appropriate governing agency.

10 CONSTRUCTION MONITORING PROGRAM

To reduce the potential for construction related claims, construction monitoring programs can be implemented to monitor ground vibrations, ground surface settlement, and lateral movement of shoring support systems. Some of the sewer laterals will connect to existing residential properties and the construction activities could potentially affect the residential properties where excavations are performed in relative close proximity to existing structures. The monitoring programs described below should be in-place and conducted prior to the start of construction to reduce the potential for damage claims and to facilitate settlement of legitimate damage claims. The resulting data should be reviewed and evaluated during construction and distributed to appropriate parties during the course of construction.

10.1 Documentation of Existing Conditions

We recommend that pre-construction condition surveys be performed on structures and improvements within approximately 50 feet of the proposed excavations prior to construction. This distance should be extended to 100 feet adjacent to proposed excavations if driven and/or vibratory sheet or soldier piles are installed. This survey should include locating existing cracks and measuring widths of cracks, in combination with videotape documentation of existing conditions. In addition, interviews should be conducted with utility owners so that existing knowledge about the age, type, and maintenance history of affected utilities is available prior to construction.

10.2 Construction Vibrations

People can perceive vibrations from construction activities at significantly lower levels than might cause cosmetic damage to structures. Jones & Stokes (2004) indicate that transient vibrations, such as from pile driving or construction activities, may be noticeable, and therefore may result in complaints, at peak particle velocities as low as 0.02 to 0.06 inch per second (ips). The vibrations may be disturbing and result in complaints and/or damage claims at peak particle velocities as low as 0.2 to 0.4 ips. However, these vibration levels are well below the level considered to cause cosmetic damage to residential construction.

There is also the possibility of settlement of the soil during construction activities due to vibrations. This settlement may result in damage to structures. If the construction vibrations can be maintained below a peak particle velocity of 0.2 ips, the settlement can likely be limited to acceptable levels based on past projects in similar conditions.

For the above stated reasons, we recommend that seismographs be used in the early stages of construction to monitor the vibrations if driven sheet pile shoring will be used within 50 feet of the existing residential buildings or other sensitive improvements. If a driven shoring system will not be used, then vibration monitoring is not needed. Seismographs should be located near structures and improvements next to the construction activities. Additional seismographs should be located at various structures and improvements farther from the construction activities to monitor vibrations as a function of distance from the vibration sources. Periodic vibration monitoring is recommended during other construction activities. After review of the data obtained, the number of seismographs may be reduced at the discretion of the client and the geotechnical consultant.

10.3 Ground Surface Settlement

We recommend that arrays of ground surface settlement points be installed around the proposed excavations that are deeper than 10 feet. The contractor should submit a monitoring plan showing the proposed locations of settlement points for review and approval by the project engineer. We recommend that the contractor be responsible for maintaining total settlement at any survey point to less than 1/2 inch. If the settlements reach this limit, we recommend that a further review of construction methodologies be performed and appropriate changes be made. We recommend that ground surface settlement points be installed at appropriate intervals along the proposed excavations.

11 CONSTRUCTION OBSERVATION

The recommendations provided in this report are based on our understanding of the proposed project and our evaluation of the data collected based on subsurface conditions disclosed by widely spaced exploratory borings. It is imperative that the geotechnical consultant checks the interpolated subsurface conditions during construction. We recommend that Ninyo & Moore review the project plans and specifications prior to construction. It should be noted that, upon review of these documents, some recommendations presented in this report may be revised or modified.

During construction, we recommend that the duties of the geotechnical consultant include, but not be limited to:

- Observing site clearing and removals.
- Observing the pipeline excavation bottoms prior to placing bedding and the pipe.
- Observing excavation, placement, and compaction of fill.
- Evaluating imported materials prior to their use as fill (if used).
- Performing field tests to evaluate fill compaction.
- Observing the installation of monitoring points and performing monitoring and/or evaluating monitoring data collected by others.

The recommendations provided in this report assume that Ninyo & Moore will be retained as the geotechnical consultant during the construction phase of this project. In the event that the services of Ninyo & Moore are not utilized during construction, we request that the selected consultant provide the City of El Monte with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this report.

12 LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analysis presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant

perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

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FIGURES



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. | REFERENCE: USGS, 2018.

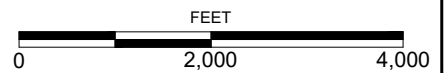
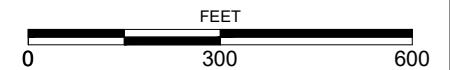


FIGURE 1



LEGEND

B-10 TD=21.5 BORING;
TD=TOTAL DEPTH IN FEET

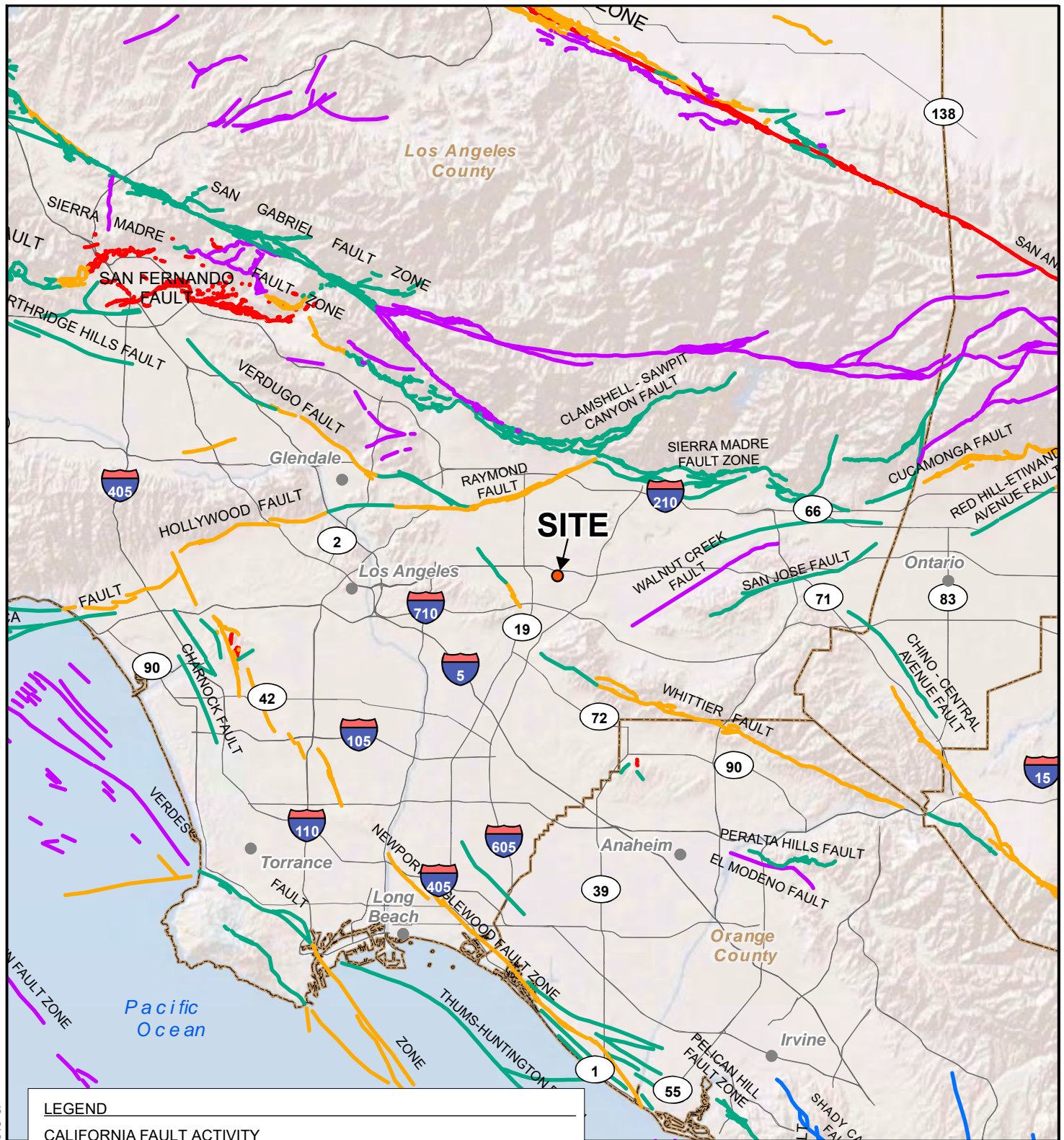


NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE. IEC, 2019b.

FIGURE 2

SITE PLAN AND BORING LOCATIONS

NEVADA AVENUE AND BODGER STREET AREA
SEWER REPLACEMENT PROJECT
EL MONTE, CALIFORNIA



SOURCES: CALIFORNIA DIVISION OF MINES AND GEOLOGY, 1976, ENVIRONMENTAL GEOLOGY OF ORANGE COUNTY, CALIFORNIA, OPEN FILE REPORT 79-8.; JENNINGS, C.W., AND BRYANT, 2010, FAULT ACTIVITY MAP OF CALIFORNIA; ESRI SHADED RELIEF, 2017



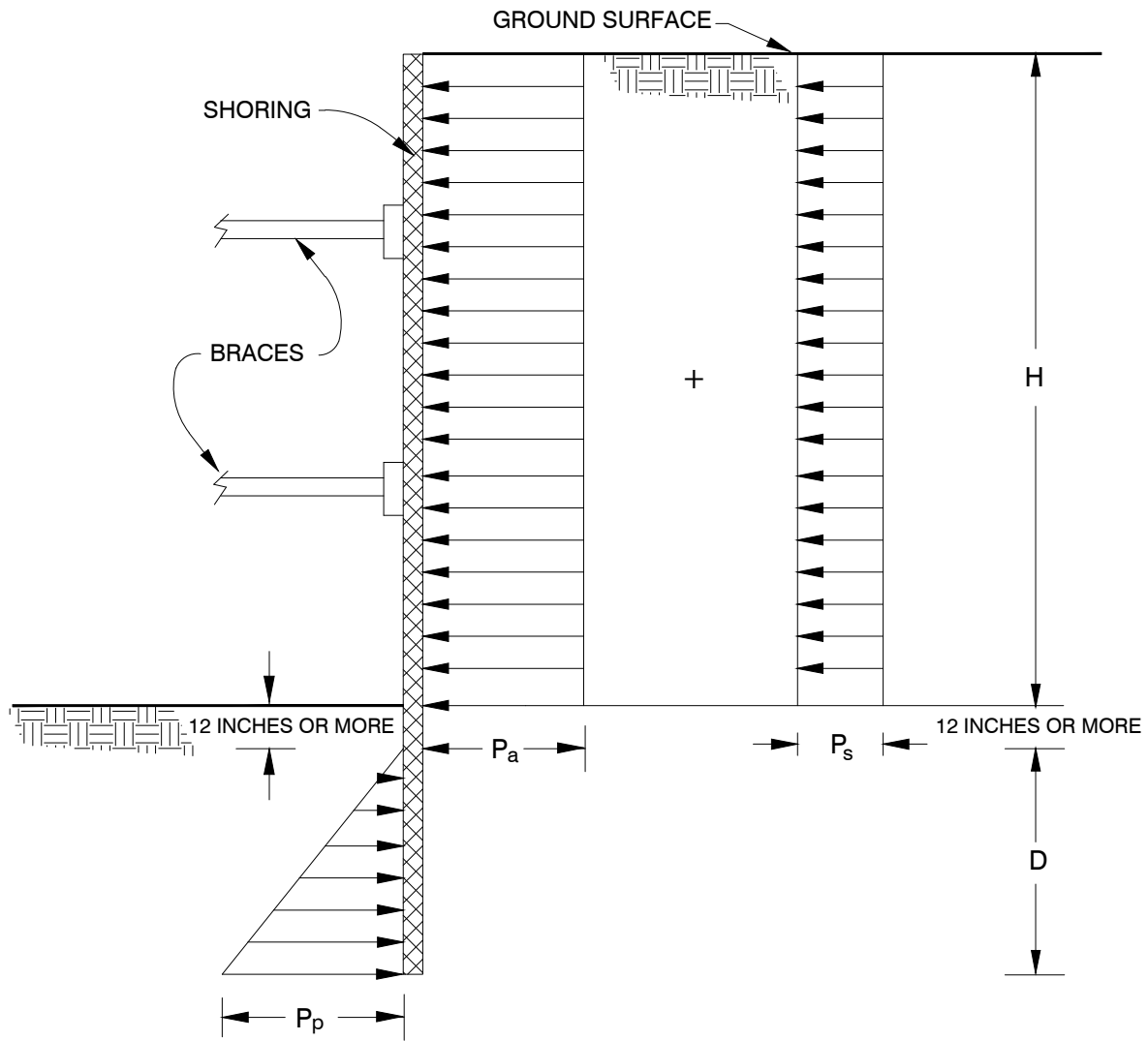
NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

FIGURE 3

FAULT LOCATIONS

NEVADA AVENUE AND BODGER STREET AREA
SEWER REPLACEMENT PROJECT
EL MONTE, CALIFORNIA

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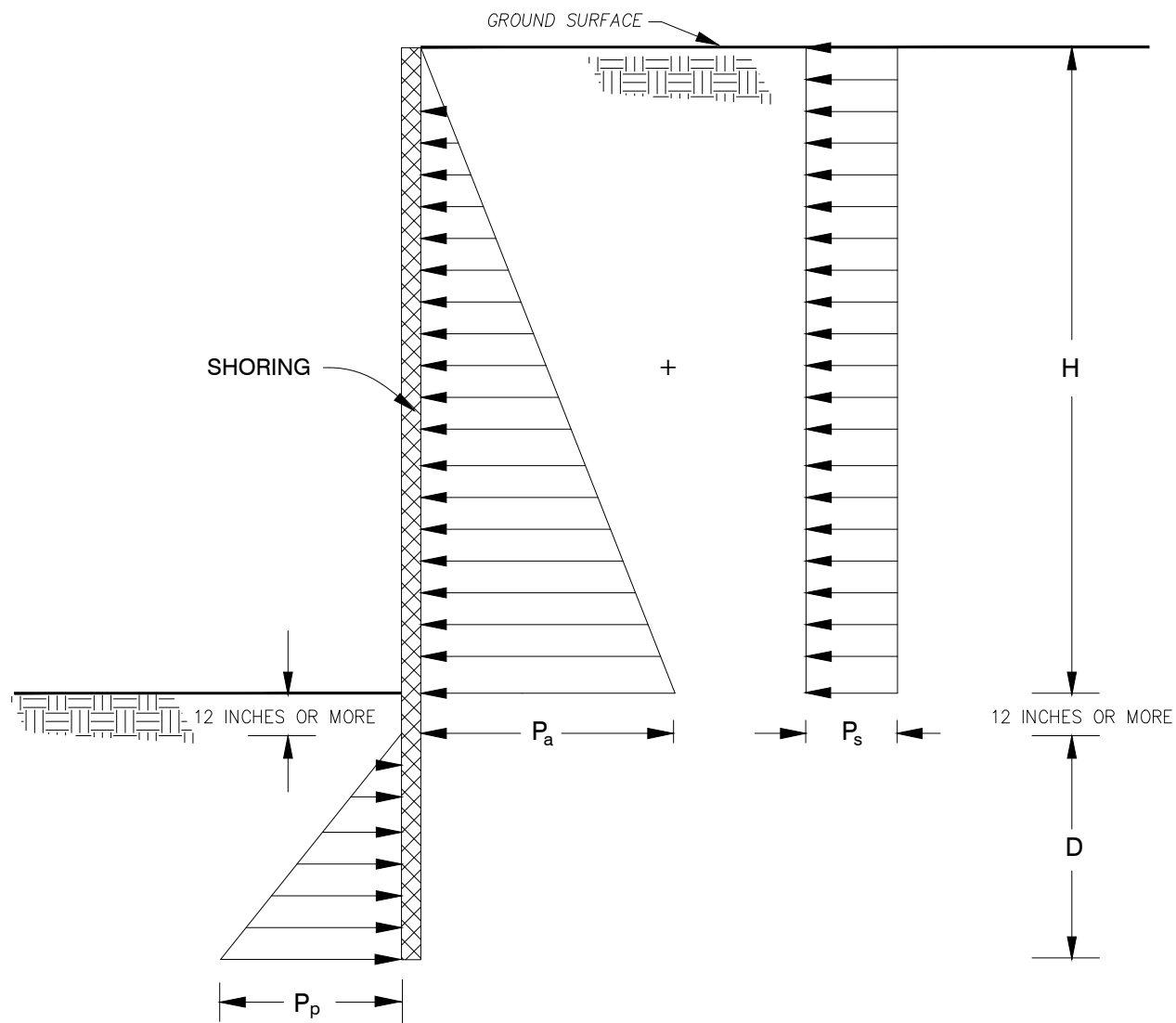
NOTES:

1. APPARENT LATERAL EARTH PRESSURE, P_a
 $P_a = 27H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 275D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

NOT TO SCALE

FIGURE 4

LATERAL EARTH PRESSURES FOR BRACED EXCAVATION



NOTES:

1. ACTIVE LATERAL EARTH PRESSURE, P_a
 $P_a = 42 H$ psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE, P_s
 $P_s = 120$ psf
3. PASSIVE LATERAL EARTH PRESSURE, P_p
 $P_p = 275 D$ psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. H AND D ARE IN FEET

NOT TO SCALE

FIGURE 5

**LATERAL EARTH PRESSURES FOR
TEMPORARY CANTILEVERED SHORING**
 NEVADA AVENUE AND BODGER STREET AREA
 SEWER REPLACEMENT PROJECT
 EL MONTE, CALIFORNIA



APPENDIX A

Boring Logs

APPENDIX A

BORING LOGS

Field Procedure for the Collection of Disturbed Samples

Disturbed soil samples were obtained in the field using the following methods.

Bulk Samples

Bulk samples of representative earth materials were obtained from the exploratory borings. The samples were bagged and transported to the laboratory for testing.

The Standard Penetration Test (SPT) Spoon

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test spoon sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of $1\frac{3}{8}$ inches. The spoon was driven into the ground 12 to 18 inches with a 140-pound hammer free-falling from a height of 30 inches in general accordance with ASTM D1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the spoon, bagged, sealed, and transported to the laboratory for testing.

Field Procedure for the Collection of Relatively Undisturbed Samples

Relatively undisturbed soil samples were obtained in the field using the following method.

The Modified Split-Barrel Drive Sampler

The sampler, with an external diameter of 3 inches, was lined with 1-inch-long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a hammer or the kelly bar of the drill rig in general accordance with ASTM D3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer or bar, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

ASTM D 2488						
Primary Divisions			Secondary Divisions			
			Group Symbol	Group Name		
COARSE-GRAINED SOILS more than 50% retained on No. 200 sieve	GRAVEL more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL		GW	well-graded GRAVEL	
				GP	poorly graded GRAVEL	
		GRAVEL with DUAL CLASSIFICATIONS		GW-GM	well-graded GRAVEL with silt	
				GP-GM	poorly graded GRAVEL with silt	
				GW-GC	well-graded GRAVEL with clay	
				GP-GC	poorly graded GRAVEL with	
		GRAVEL with FINES more than		GM	silty GRAVEL	
				GC	clayey GRAVEL	
				GC-GM	silty, clayey GRAVEL	
	SAND 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND		SW	well-graded SAND	
				SP	poorly graded SAND	
		SAND with DUAL CLASSIFICATIONS		SW-SM	well-graded SAND with silt	
				SP-SM	poorly graded SAND with silt	
				SW-SC	well-graded SAND with clay	
				SP-SC	poorly graded SAND with clay	
		SAND with FINES more than		SM	silty SAND	
				SC	clayey SAND	
				SC-SM	silty, clayey SAND	
	FINE-GRAINED SOILS 50% or more passes No. 200 sieve	SILT and CLAY liquid limit less than 50%	INORGANIC		CL	lean CLAY
					ML	SILT
					CL-ML	silty CLAY
ORGANIC				OL (PI > 4)	organic CLAY	
				OL (PI < 4)	organic SILT	
SILT and CLAY liquid limit 50% or more		INORGANIC		CH	fat CLAY	
				MH	elastic SILT	
		ORGANIC		OH (plots on or above "A"-line)	organic CLAY	
				OH (plots below "A"-line)	organic SILT	
		Highly Organic Soils			PT	Peat

Grain Size				
Description	Sieve Size	Grain Size	Approximate Size	
Boulders	> 12"	> 12"	Larger than basketball-sized	
Cobbles	3 - 12"	3 - 12"	Fist-sized to basketball-sized	
Gravel	Coarse	3/4 - 3"	3/4 - 3"	Thumb-sized to
	Fine	#4 - 3/4"	0.19 - 0.75"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	0.079 - 0.19"	Rock-salt-sized to pea-sized
	Medium	#40 - #10	0.017 - 0.079"	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	0.0029 - 0.017"	Flour-sized to sugar-sized
Fines	Passing #200	< 0.0029"	Flour-sized and smaller	

Plasticity Chart	
PLASTICITY INDEX (PI), %	LIQUID LIMIT (LL), %

Apparent Density - Coarse-Grained Soil				
Apparent Density	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Split Barrel (blows/foot)	SPT (blows/foot)	Split Barrel (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70















Consistency - Fine-Grained Soil				
Consistency	Spooling Cable or Cathead		Automatic Trip Hammer	
	SPT (blows/foot)	Split Barrel (blows/foot)	SPT (blows/foot)	Split Barrel (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
	9 - 15	11 - 20	6 - 10	7 - 13
V	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

Geotechnical & Environmental Sciences Consultants

USCS METHOD OF SOIL CLASSIFICATION

Page 237

BORING LOG EXPLANATION SHEET

DEPTH (feet)	Bulk Driven SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0							Bulk sample.
							Modified split-barrel drive sampler.
							No recovery with modified split-barrel drive sampler.
							Sample retained by others.
							Standard Penetration Test (SPT).
5							No recovery with a SPT.
		XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
							No recovery with Shelby tube sampler.
							Continuous Push Sample.
							Seepage.
10							Groundwater encountered during drilling.
							Groundwater measured after drilling.
						SM	<u>MAJOR MATERIAL TYPE (SOIL):</u>
							Solid line denotes unit change.
						CL	Dashed line denotes material change.
15							Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Shear Bedding Surface
20							The total depth line is a solid line that is drawn at the bottom of the boring.

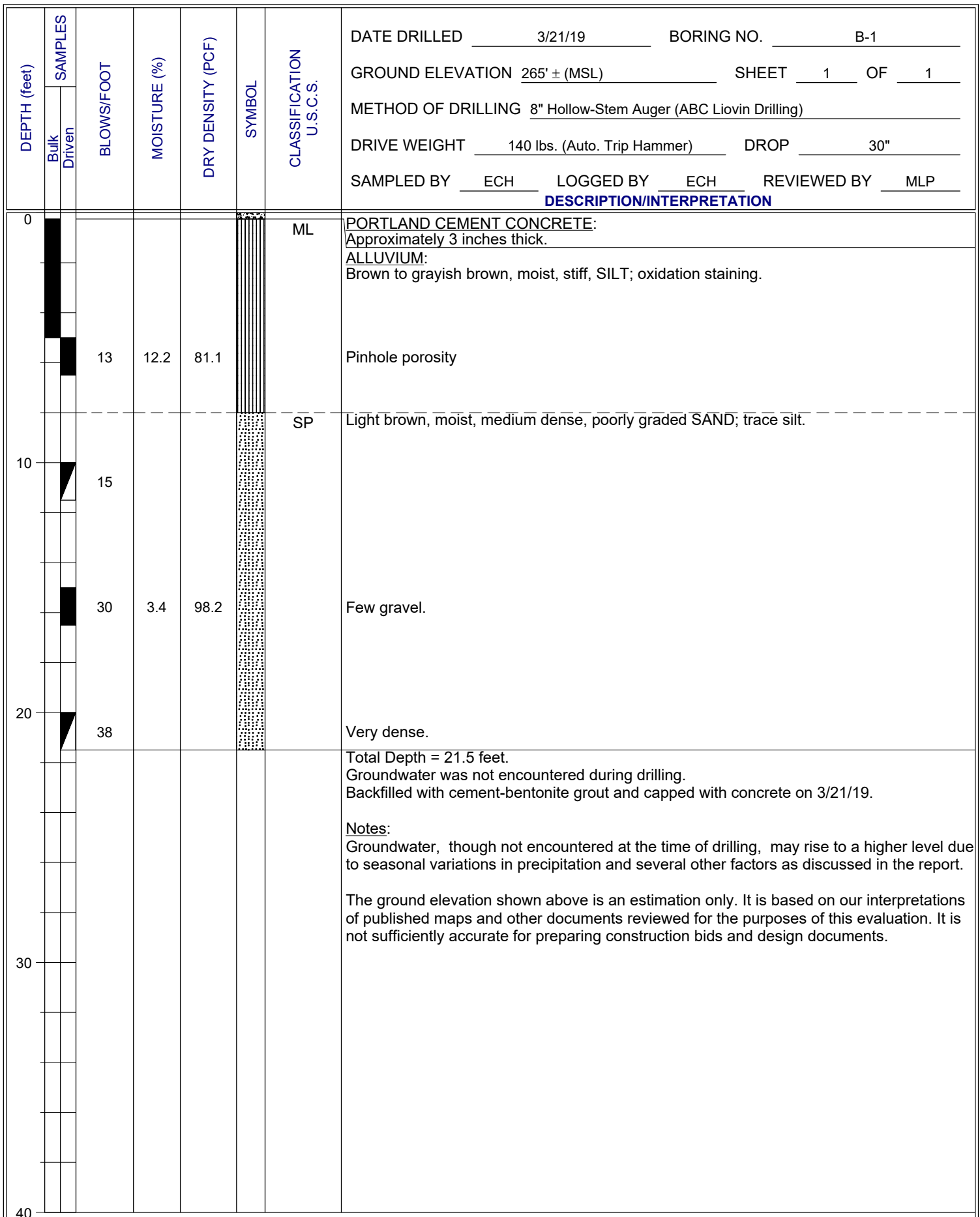


FIGURE A- 1

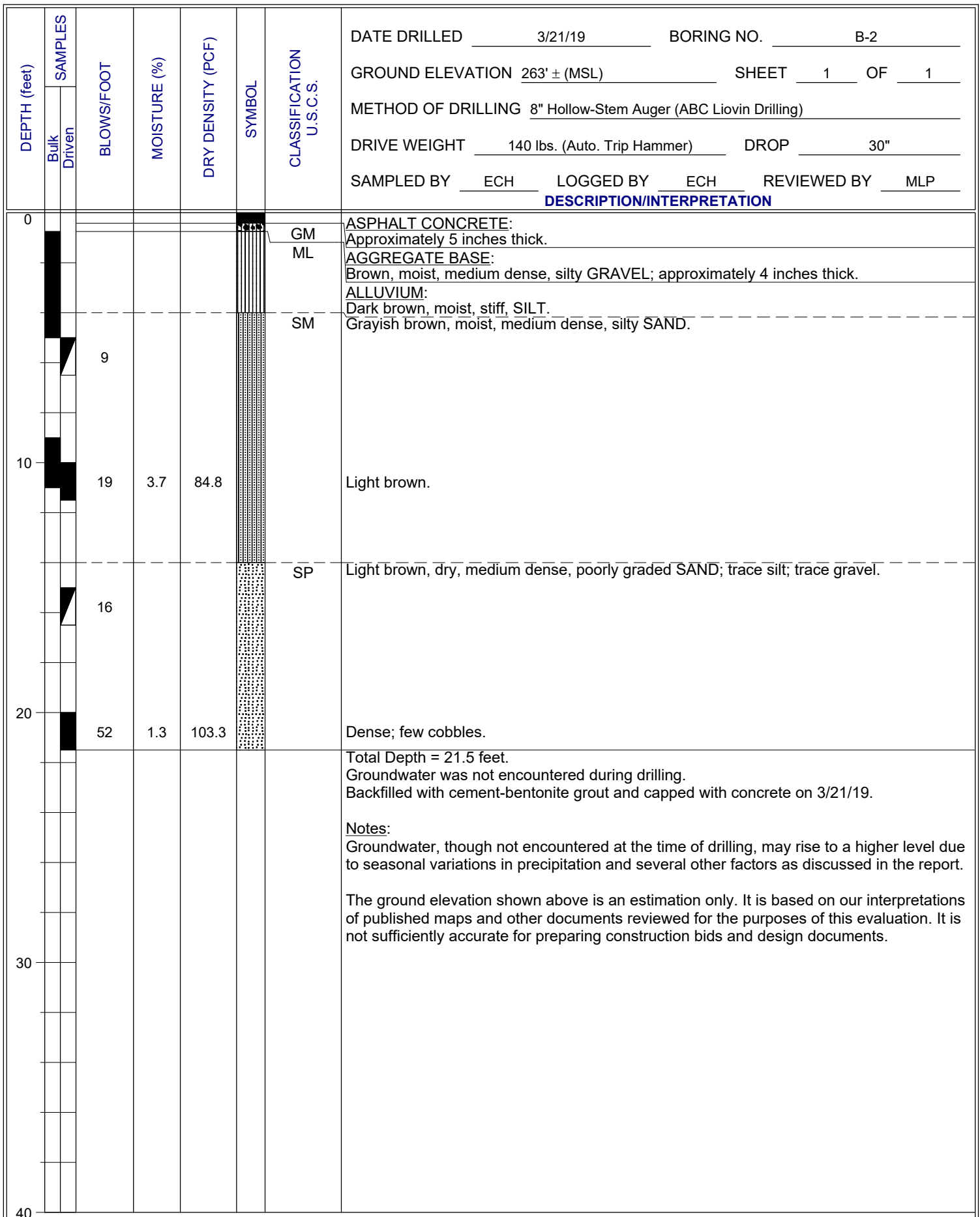


FIGURE A- 2

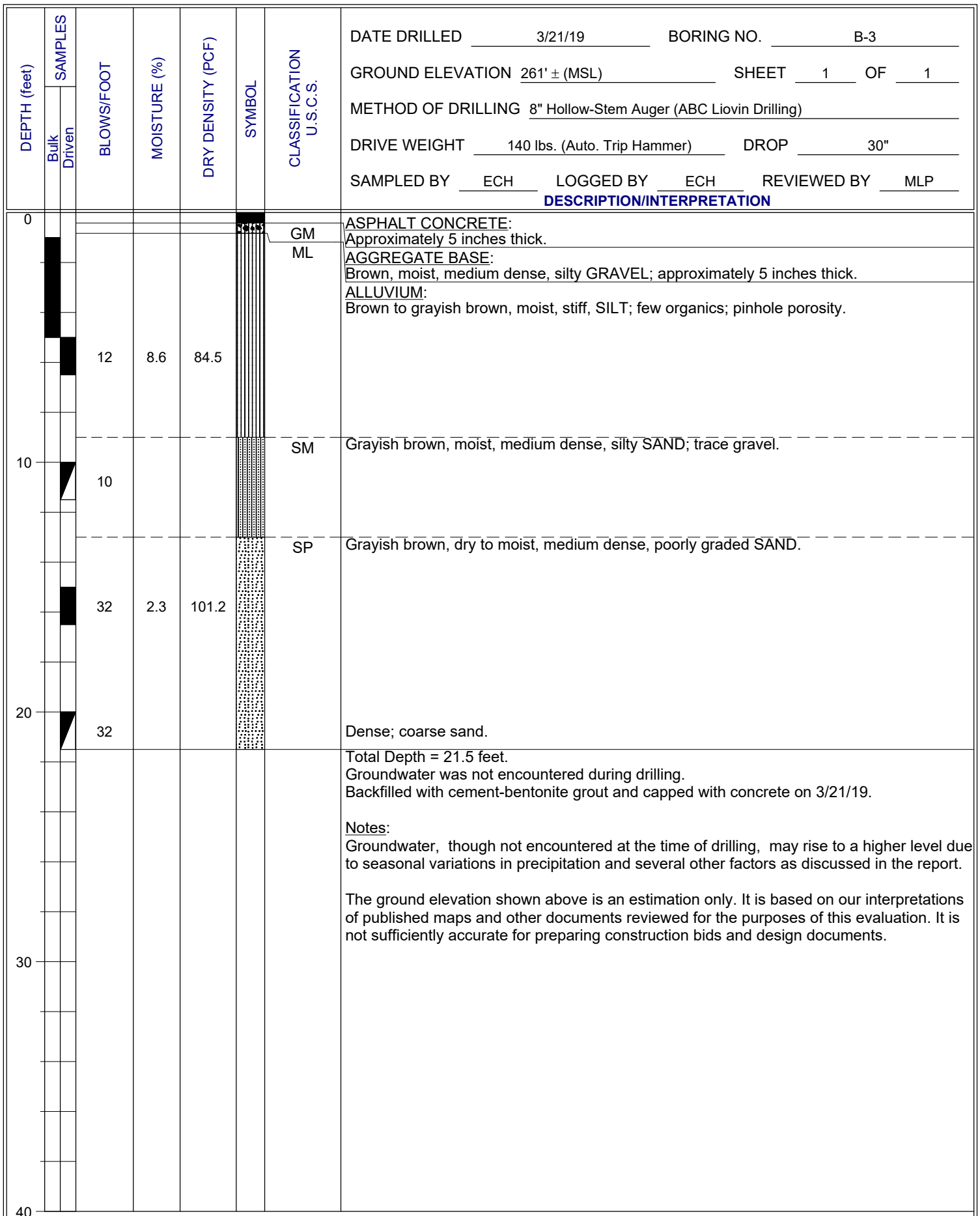


FIGURE A- 3

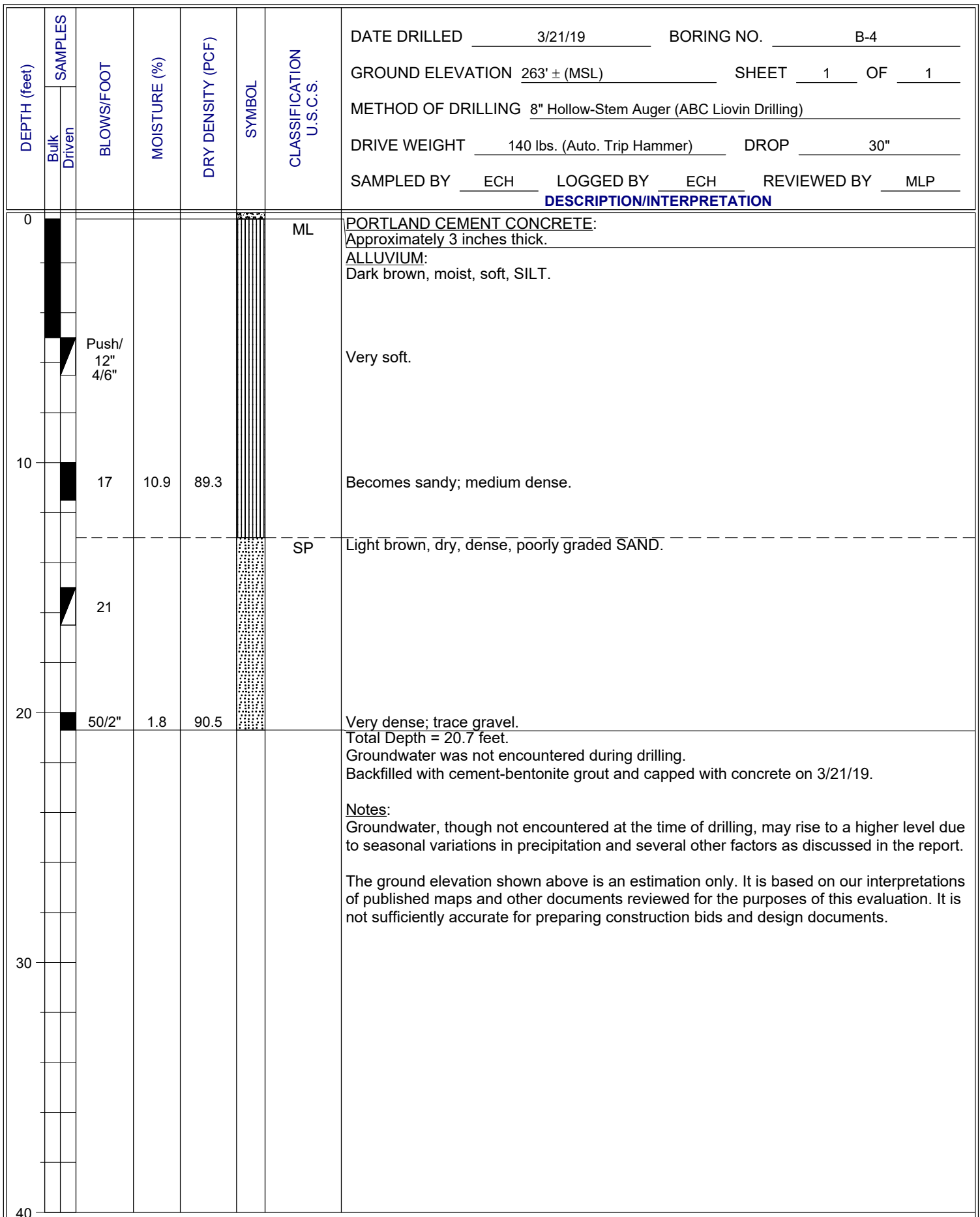


FIGURE A- 4

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 3/22/19 BORING NO. B-5	
	Bulk	Driven						GROUND ELEVATION 262' ± (MSL)	SHEET 1 OF 1
METHOD OF DRILLING 8" Hollow-Stem Auger (ABC Liovin Drilling)									
DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"									
SAMPLED BY ECH LOGGED BY ECH REVIEWED BY MLP									
DESCRIPTION/INTERPRETATION									
0							GM	ASPHALT CONCRETE: Approximately 5 inches thick.	
							SM	AGGREGATE BASE: Brown, moist, medium dense, silty GRAVEL; approximately 1 inch thick.	
							ML	ALLUVIUM: Dark brown, moist, loose, silty SAND; fine sand. Grayish brown, moist, stiff, SILT.	
			7	11.2	95.5				
							SM	Grayish brown, moist, medium dense, silty SAND.	
10			14						
							SP	Light brown, dry, medium dense, poorly graded SAND; few gravel.	
			32	1.5	103.8				
20			20					Few to little gravel.	
			36	3.0	92.6		SM	Light brown, moist, dense, silty SAND; few gravel.	
								Total Depth = 23.0 feet. Groundwater was not encountered during drilling. Backfilled with cement-bentonite grout and capped with concrete on 3/22/19.	
								Notes: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.	
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.	
30									

FIGURE A- 5

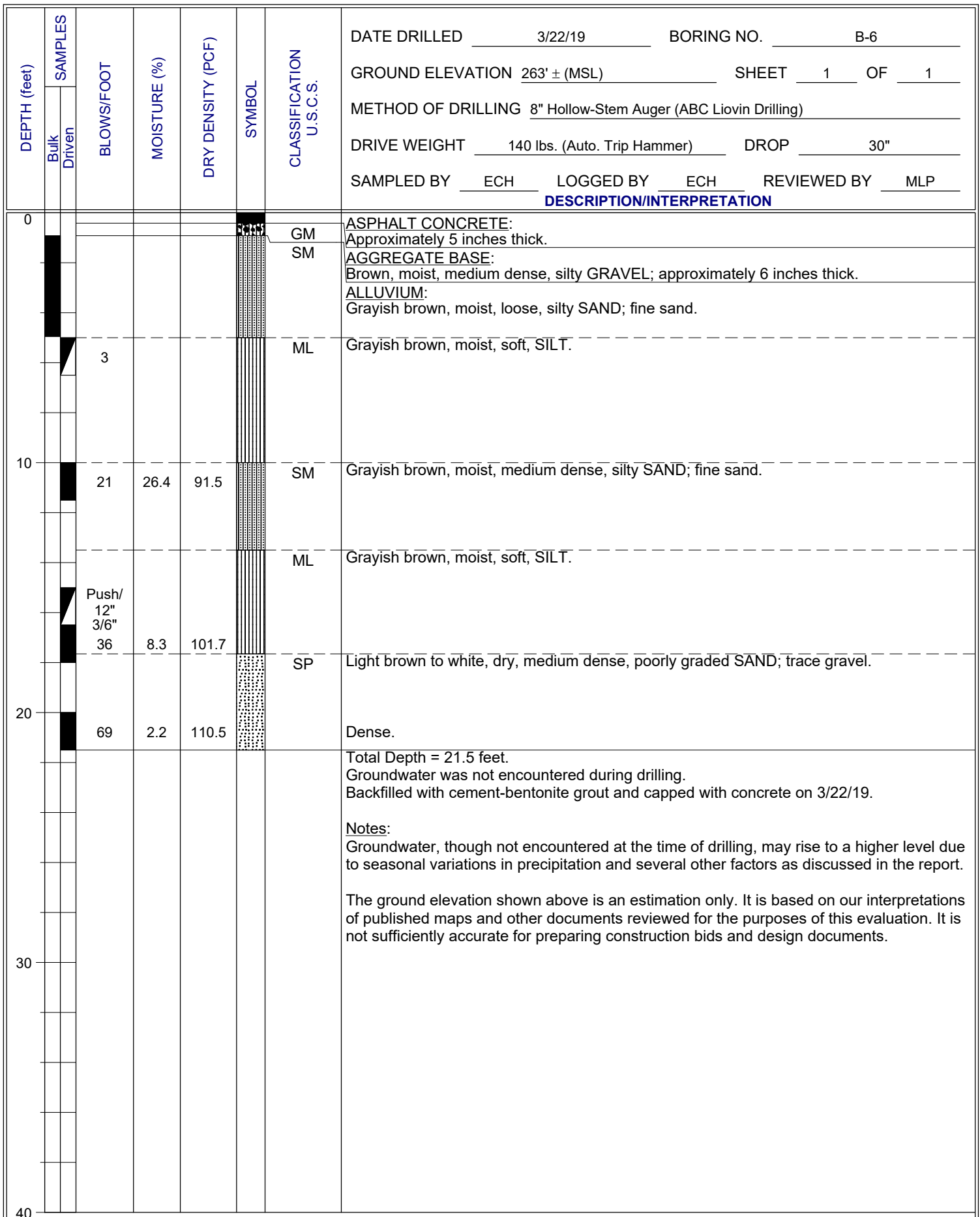


FIGURE A- 6

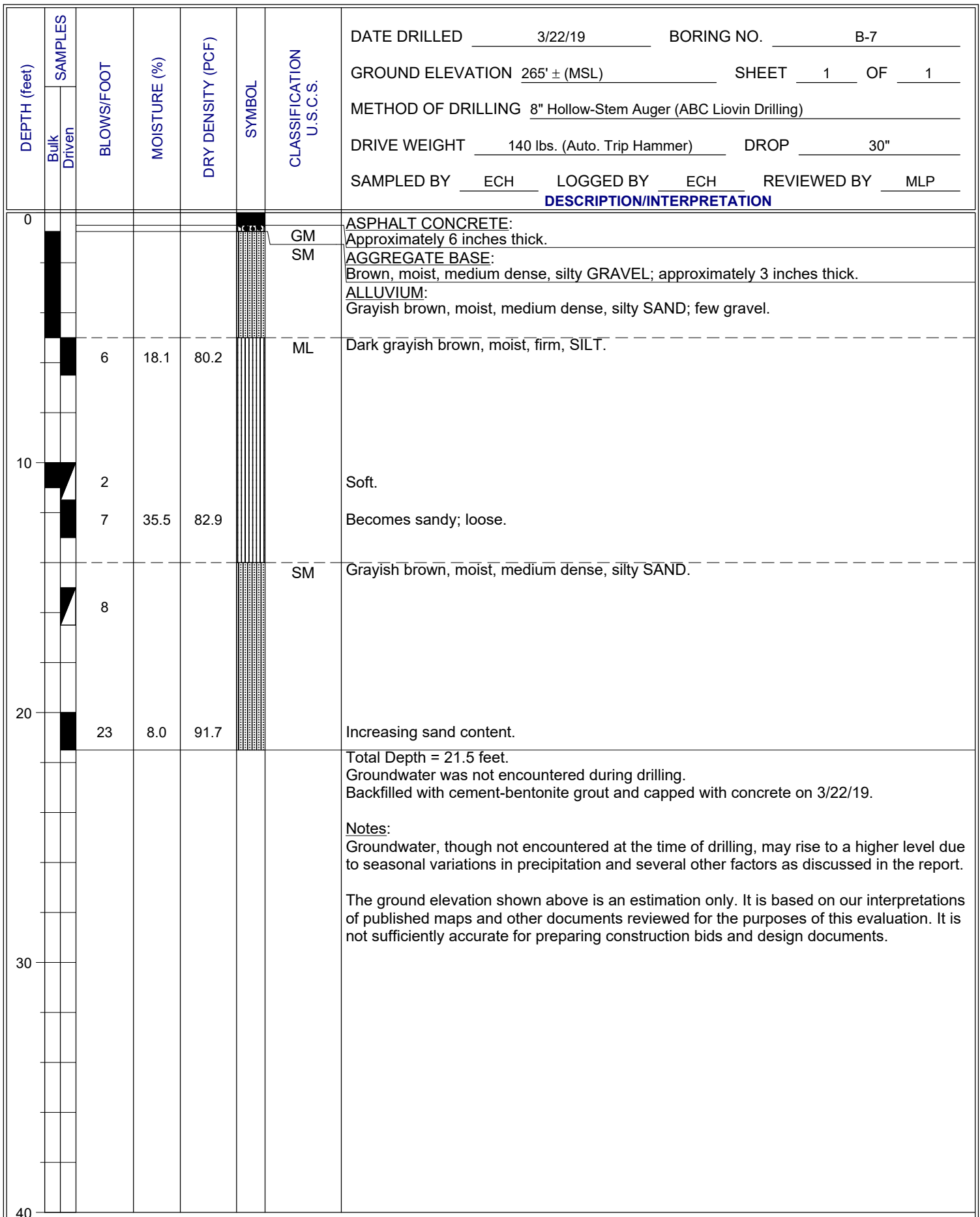


FIGURE A- 7

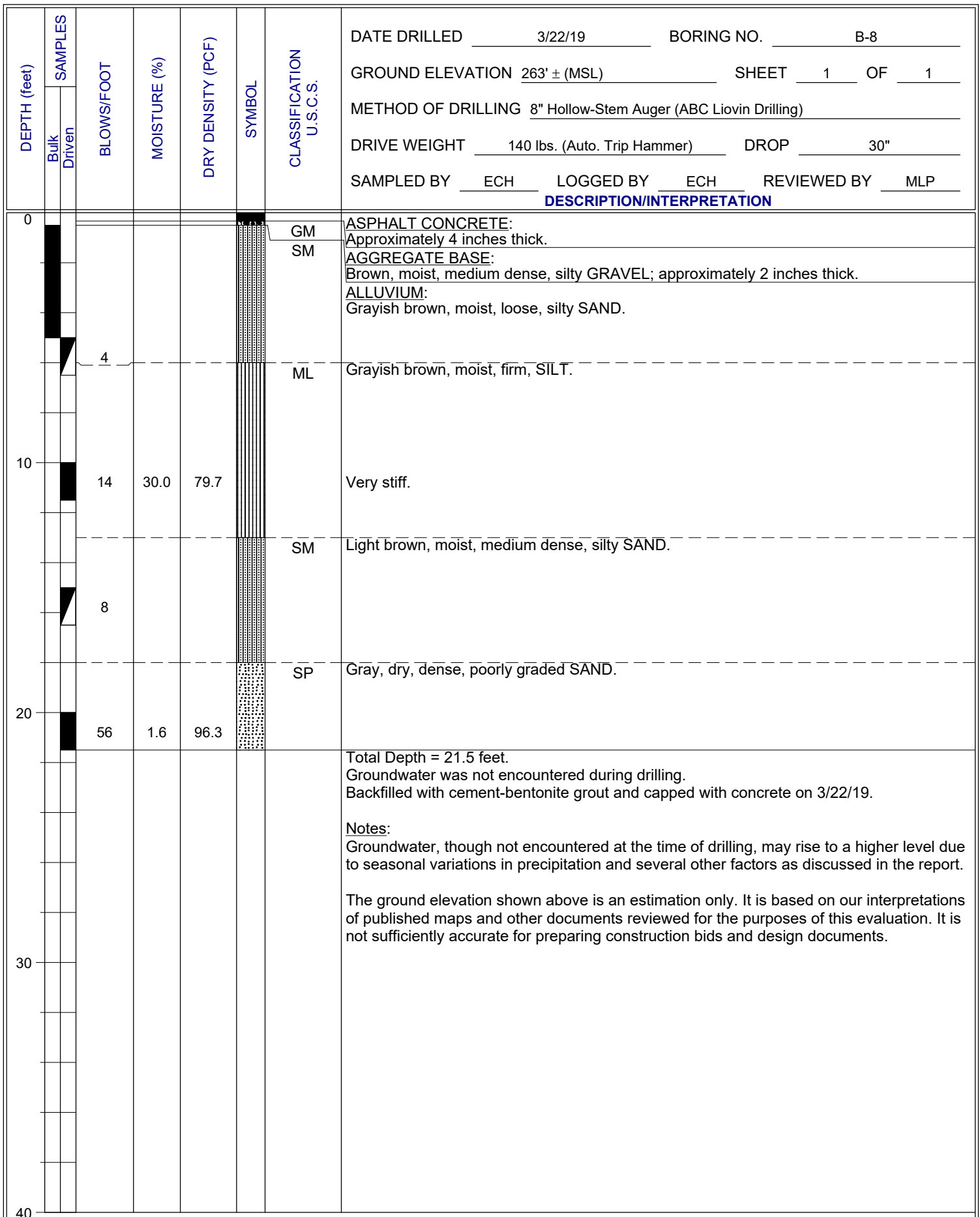


FIGURE A- 8

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>3/22/19</u> BORING NO. <u>B-9</u> GROUND ELEVATION <u>261' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Hollow-Stem Auger (ABC Liovin Drilling)</u> DRIVE WEIGHT <u>140 lbs. (Auto. Trip Hammer)</u> DROP <u>30"</u> SAMPLED BY <u>ECH</u> LOGGED BY <u>ECH</u> REVIEWED BY <u>MLP</u>	
	Bulk	Driven						DESCRIPTION/INTERPRETATION	
0							GM SM	ASPHALT CONCRETE: Approximately 3 inches thick. AGGREGATE BASE: Brown, moist, medium dense, silty GRAVEL; approximately 1 inch thick. ALLUVIUM: Brown, moist, medium dense, silty SAND; trace gravel.	
10			17	28.1	90.7		ML	Brown, moist, very stiff, SILT.	
20			30	3.3	88.7		SM	Light brown, moist, medium dense, silty SAND.	
30								Total Depth = 21.5 feet. Groundwater was not encountered during drilling. Backfilled with cement-bentonite grout and capped with concrete on 3/22/19. <u>Notes:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report. The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.	
40									

FIGURE A- 9

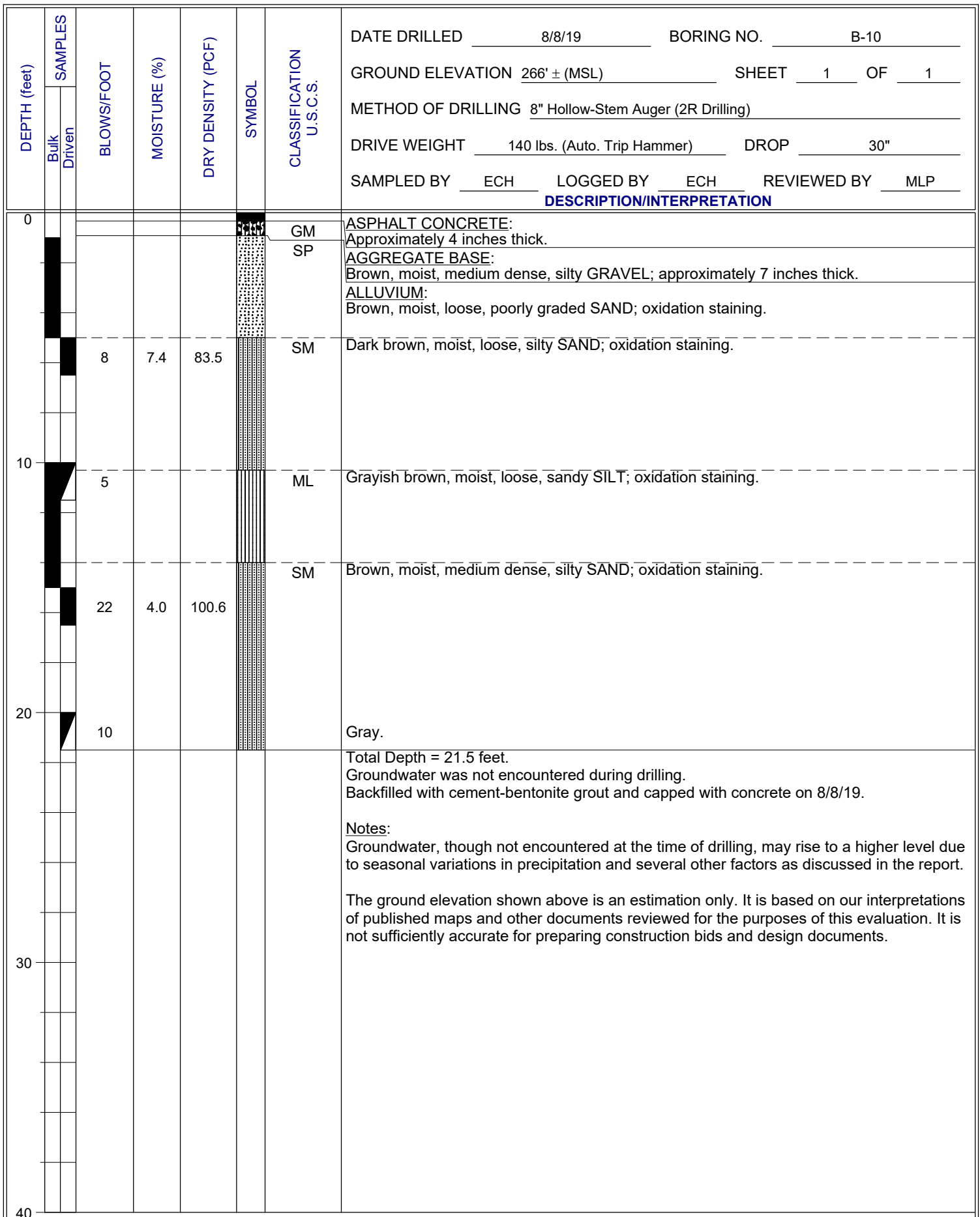


FIGURE A- 10



APPENDIX B

Laboratory Testing

APPENDIX B

LABORATORY TESTING

Classification

Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D2488. Soil classifications are indicated on the logs of the exploratory borings in Appendix A.

In-Place Moisture and Density Tests

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory borings were evaluated in general accordance with ASTM D2937. The test results are presented on the logs of the exploratory borings in Appendix A.

Sieve Analysis

Gradation analysis testing was performed on selected representative soil samples in general accordance with ASTM D422. The grain-size distribution curves are shown on Figures B-1 through B-3. These test results were utilized in evaluating the soil classifications in accordance with the USCS.

200 Wash

An evaluation of the percentage of particles finer than the No. 200 sieve in selected representative soil samples was performed in general accordance with ASTM D 1140. The results of the test are presented on Figure B-4.

Atterberg Limits

Tests were performed on selected representative fine-grained soil samples to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318. These test results were utilized to evaluate the soil classification in accordance with the USCS. The test results and classifications are shown on Figure B-5.

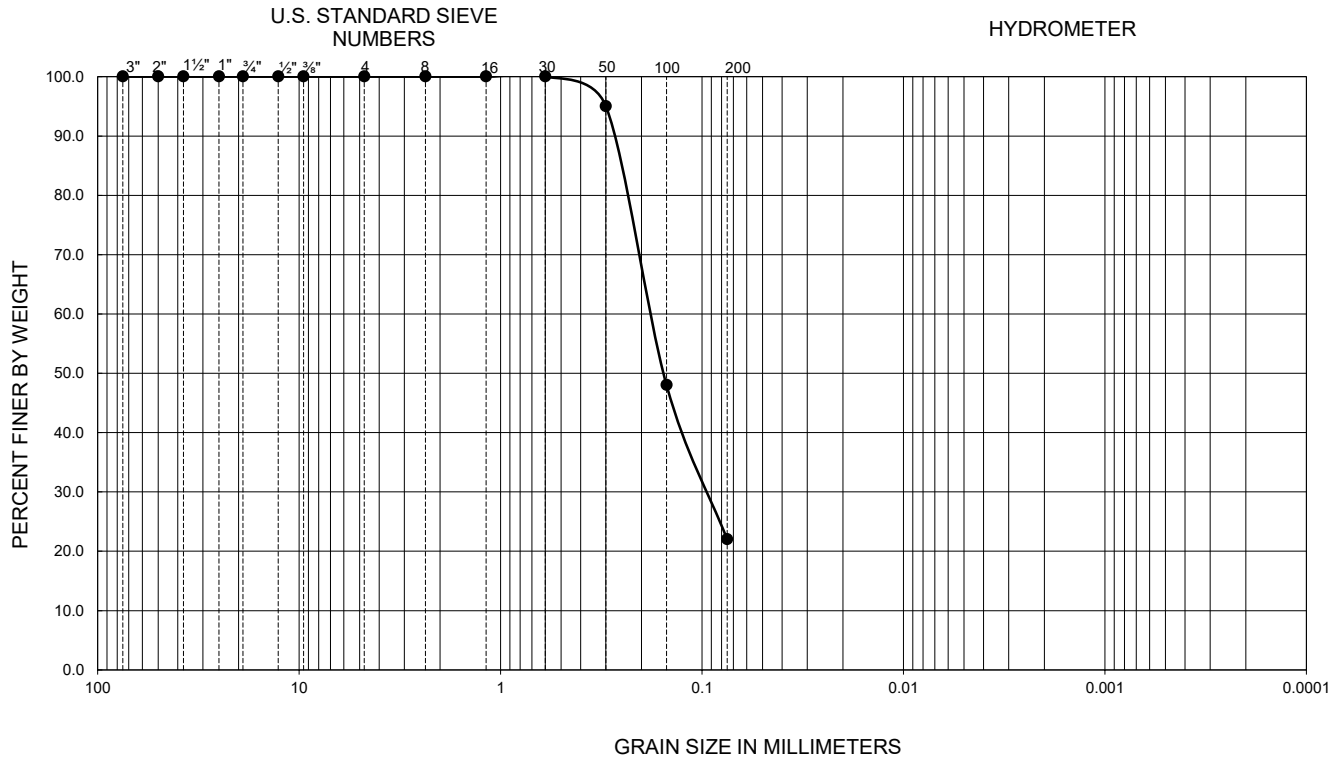
Direct Shear Tests

Direct shear tests were performed on relatively undisturbed samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of the selected materials. The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figures B-6 through B-10.

Soil Corrosivity Tests

Soil pH and resistivity tests were performed on selected representative samples in general accordance with California Test (CT) 643. The soluble sulfate and chloride contents of the selected samples were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-11.

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

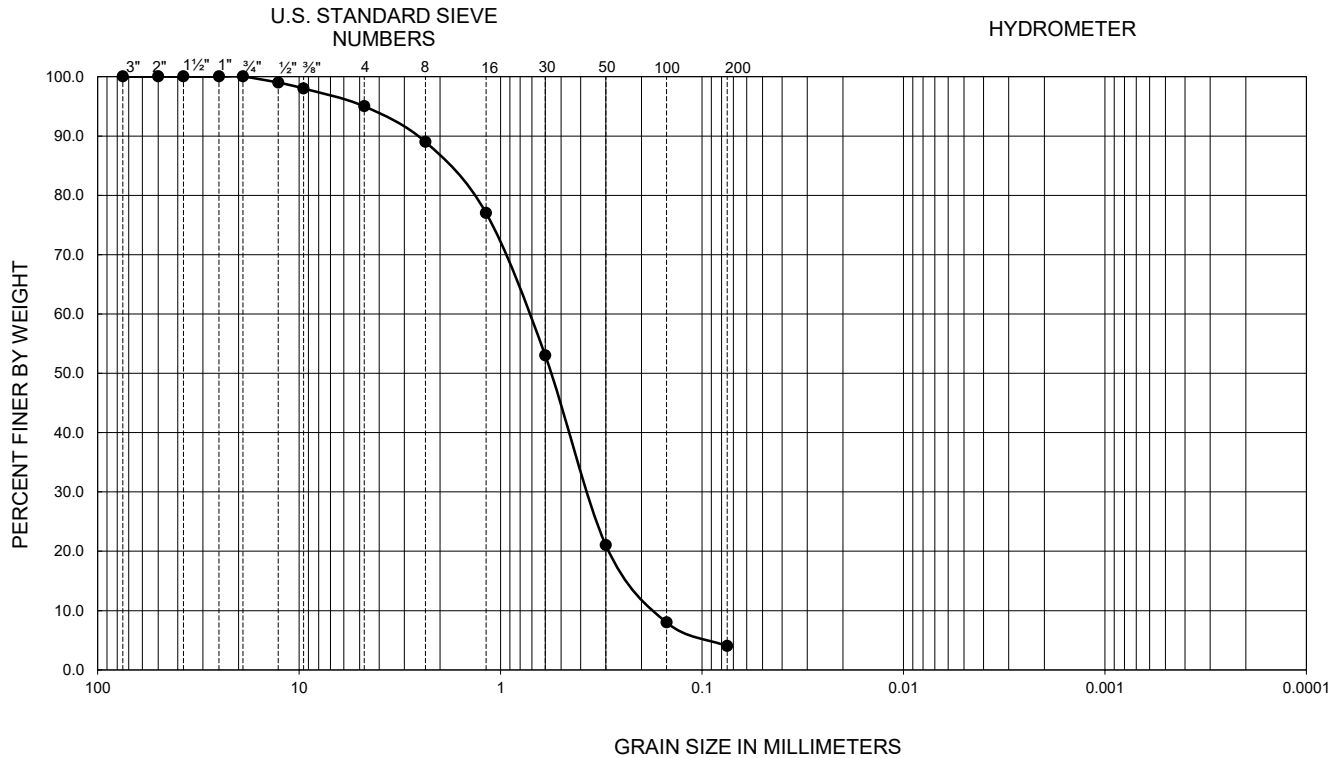


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-2	10.0-11.5	--	--	--	--	--	--	--	--	22	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-1

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

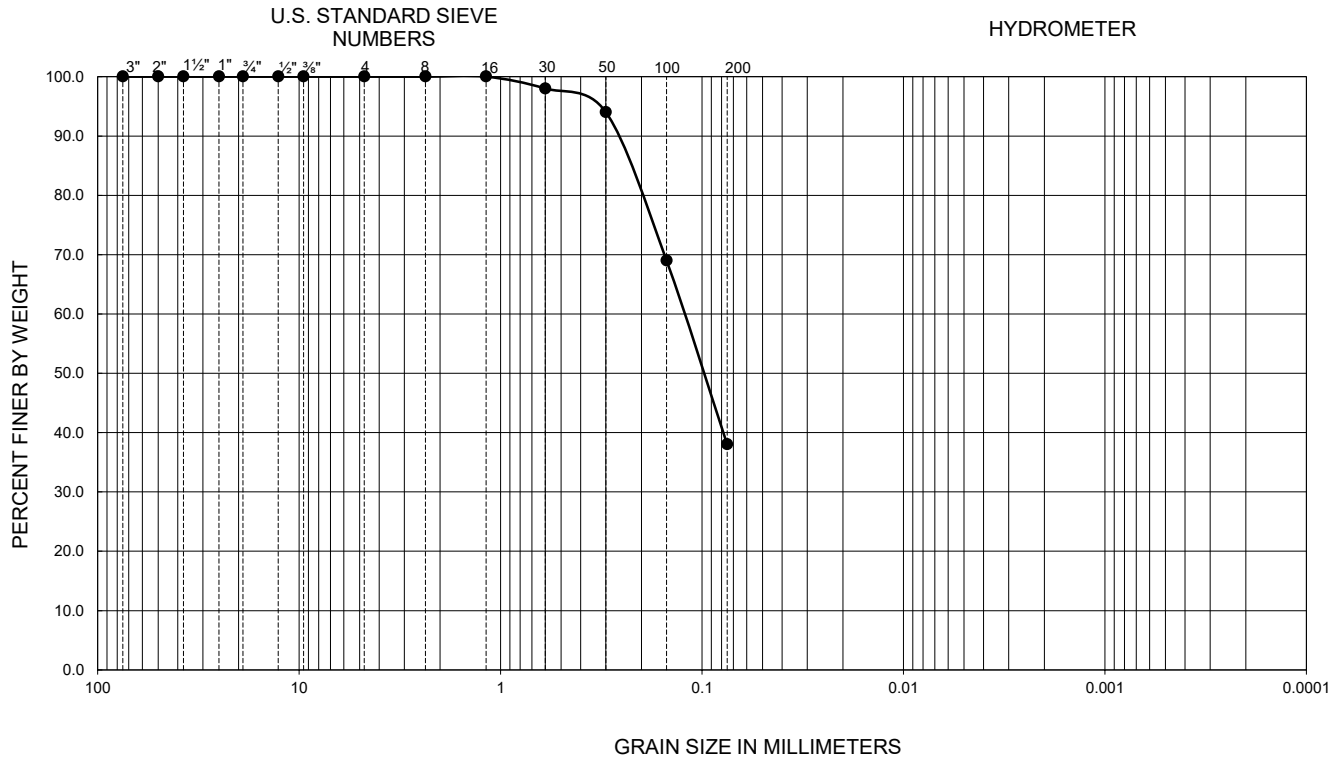


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-5	15.0-16.5	--	--	--	0.17	0.37	0.71	4.2	1.1	4	SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-2

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY



Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D ₁₀	D ₃₀	D ₆₀	C _u	C _c	Passing No. 200 (percent)	USCS
●	B-8	15.0-16.5	--	--	--	--	--	--	--	--	38	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

FIGURE B-3

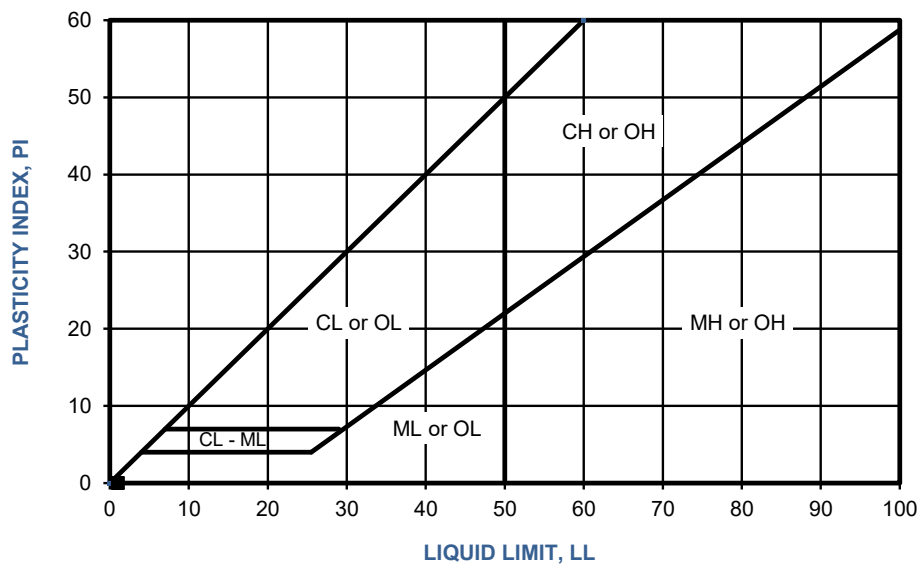
SAMPLE LOCATION	SAMPLE DEPTH (ft)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
B-1	5.0-6.5	SILT	100	86	ML
B-3	10.0-11.5	SILTY SAND	96	31	SM
B-4	10.0-11.5	SANDY SILT	100	50	ML
B-7	1.0-5.0	SILTY SAND	90	46	SM
B-10	5.0-6.5	SILTY SAND	100	21	SM
B-10	10.0-11.5	SANDY SILT	100	66	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140

FIGURE B-4

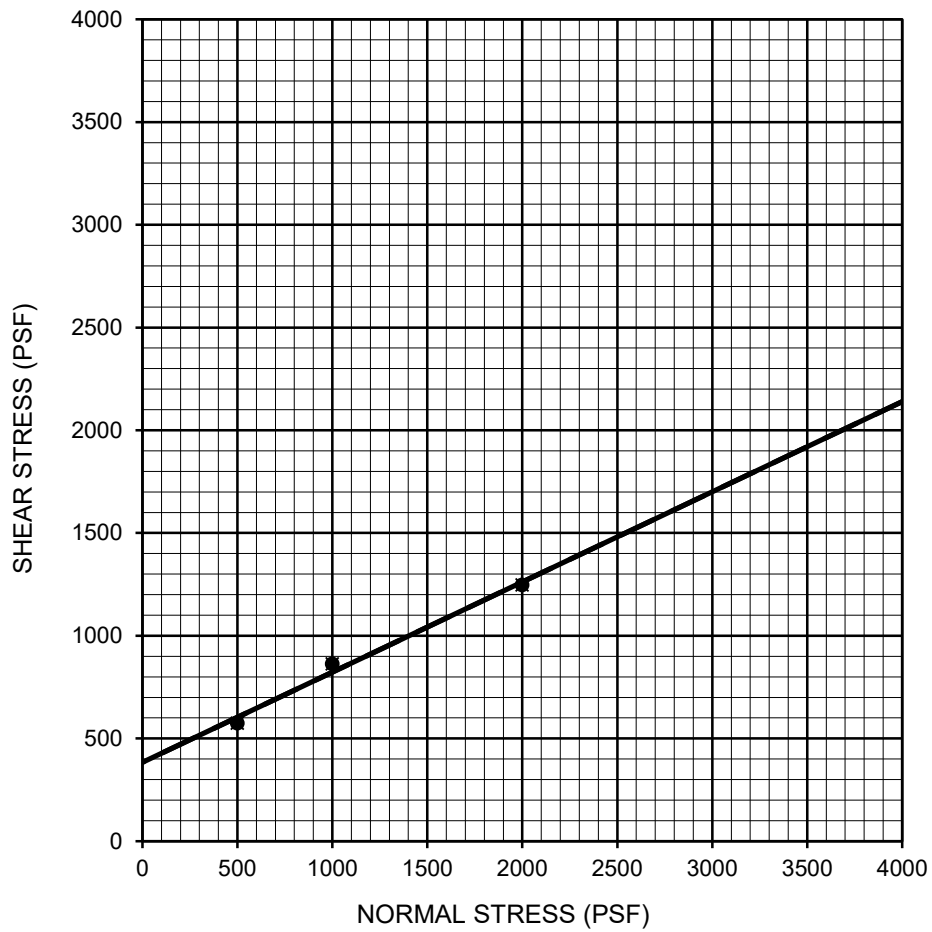
SYMBOL	LOCATION	DEPTH (ft)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS
●	B-4	5.0-6.5	-	-	NP	ML	ML
■	B-5	5.0-6.5	-	-	NP	ML	ML
◆	B-7	10.0-11.5	-	-	NP	ML	ML



NP - INDICATES NON-PLASTIC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318

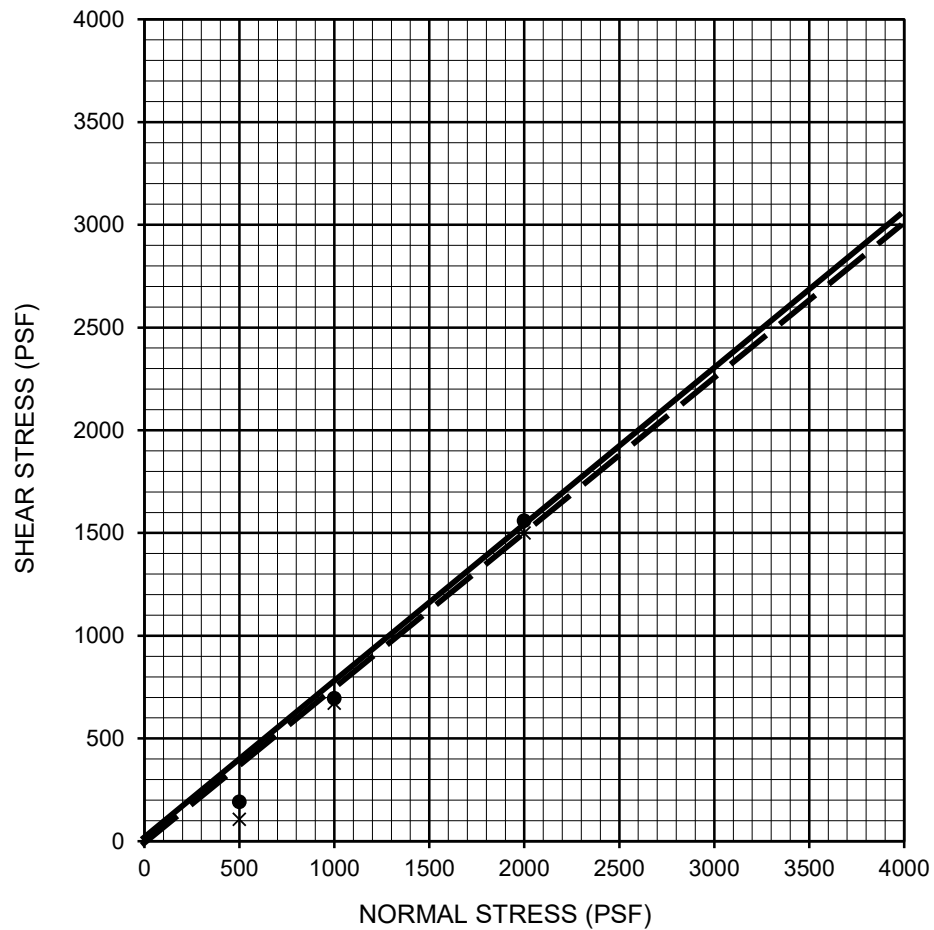
FIGURE B-5



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
SILT		B-1	5.0-6.5	Peak	384	24	ML
SILT		B-1	5.0-6.5	Ultimate	384	24	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

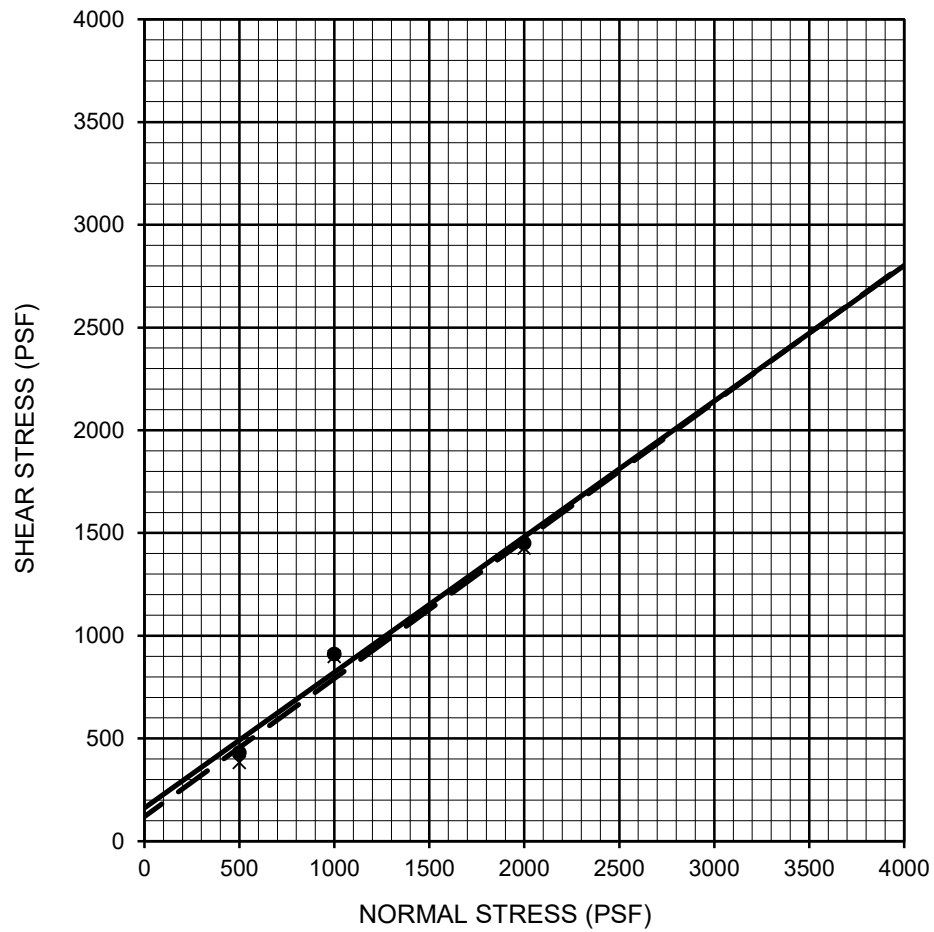
FIGURE B-6



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
SILTY SAND	—●—	B-2	10.0-11.5	Peak	0	42	SM
SILTY SAND	- - X - -	B-2	10.0-11.5	Ultimate	0	42	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-7

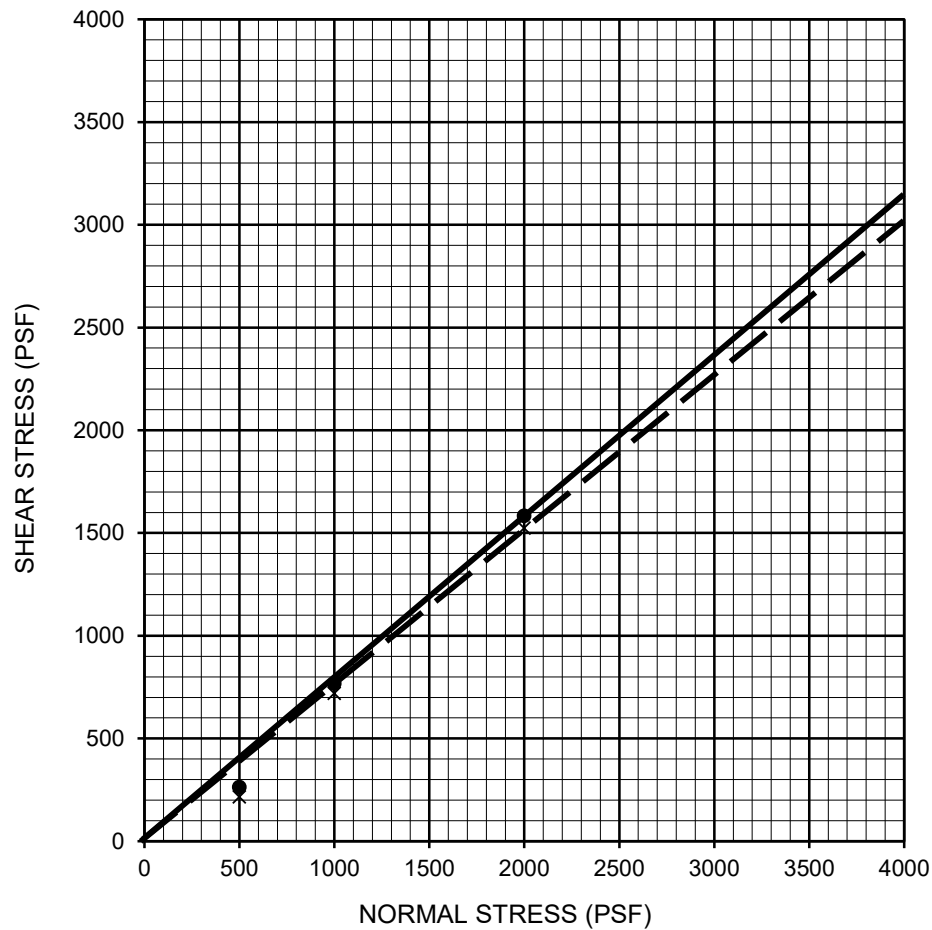


Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
SILT	—●—	B-5	5.0-6.5	Peak	162	33	ML
SILT	- - X - -	B-5	5.0-6.5	Ultimate	120	34	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-8

DIRECT SHEAR TEST RESULTS

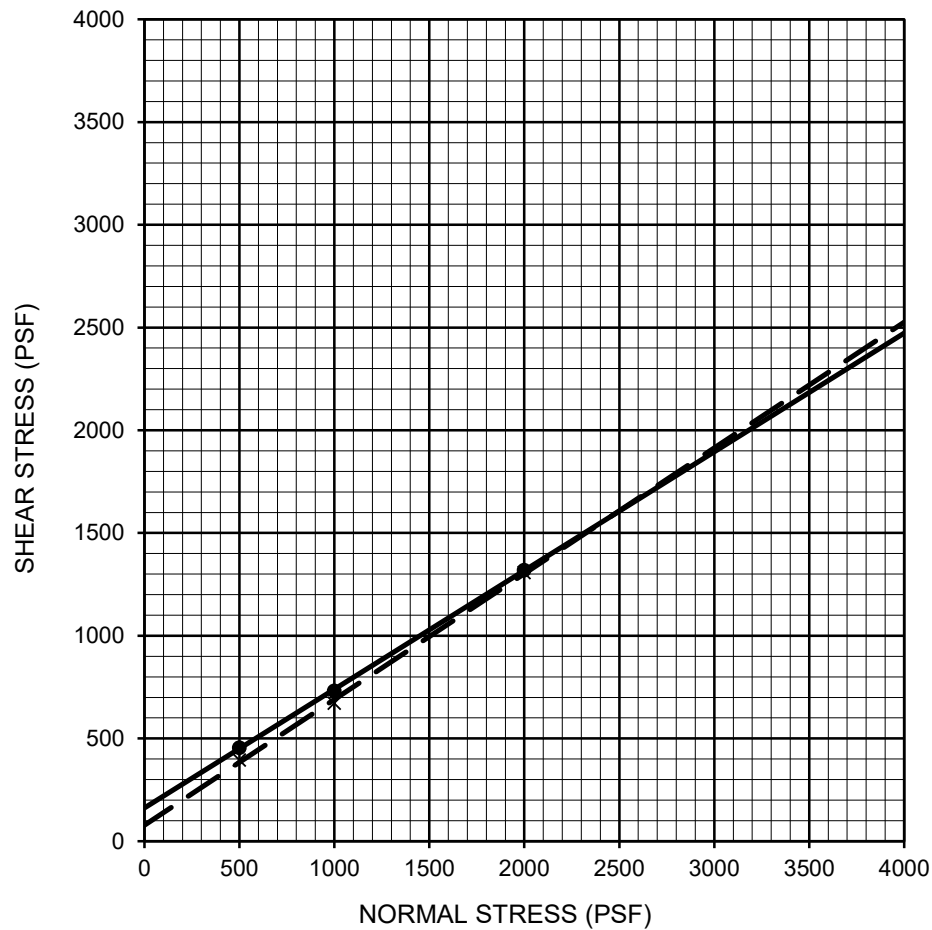


Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
SANDY SILT	—●—	B-7	11.5-13.0	Peak	0	41	ML
SANDY SILT	- - X - -	B-7	11.5-13.0	Ultimate	0	41	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-9

DIRECT SHEAR TEST RESULTS



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion (psf)	Friction Angle (degrees)	Soil Type
SILTY SAND	—●—	B-10	5.0-6.5	Peak	162	30	SM
SILTY SAND	- - X - -	B-10	5.0-6.5	Ultimate	78	31	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

FIGURE B-10

DIRECT SHEAR TEST RESULTS

SAMPLE LOCATION	SAMPLE DEPTH (ft)	pH ¹	RESISTIVITY ¹ (ohm-cm)	SULFATE CONTENT ²		CHLORIDE CONTENT ³ (ppm)
				(ppm)	(%)	
B-2	0.0-5.0	7.6	2,055	50	0.005	70
B-7	10.0-10.5	7.7	6,783	10	0.001	30
B-10	5.0-6.5	7.8	4,561	110	0.011	40

¹ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

² PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

³ PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

FIGURE B-11



475 Goddard, Suite 200 | Irvine, California 92618 | p. 949.753.7070

ARIZONA | CALIFORNIA | COLORADO | NEVADA | TEXAS | UTAH

www.ninyoandmoore.com

APPENDIX E

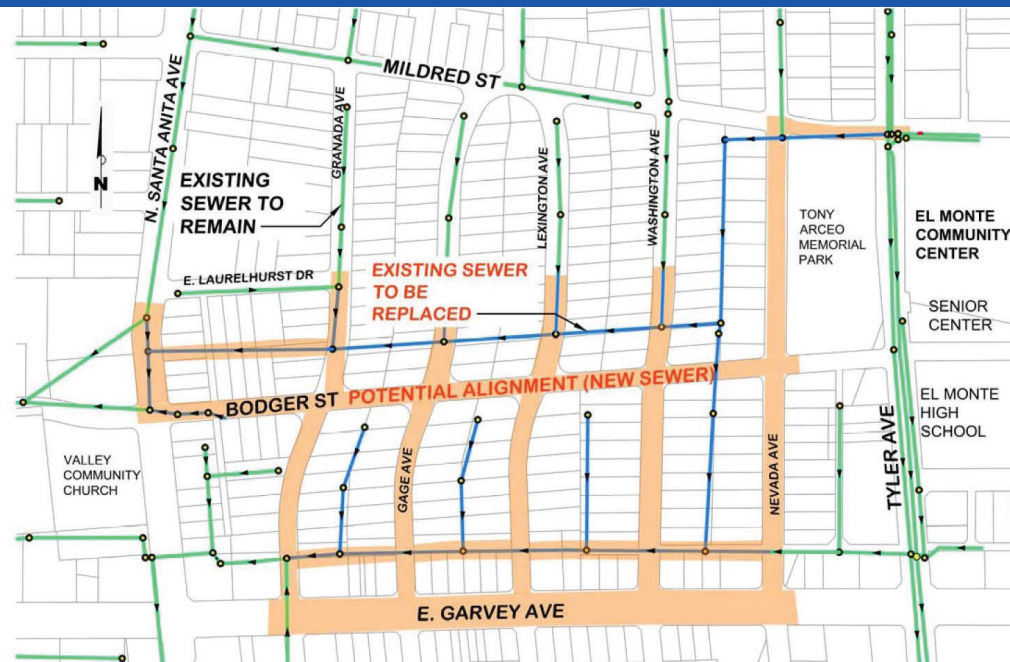


PLEASE JOIN US!

Thursday, October 18, 2018 • 7:00 PM – 8:00 PM

Community Meeting

El Monte Community Center • 3130 Tyler Avenue • El Monte, CA 91731



The City of El Monte is planning to:

- Replace sewer mains in your neighborhood
- Evaluate and relieve old sewer pipes that are currently in private backyard easements
- And relocate new sewer pipes in public streets to reduce maintenance costs

Questions? Please contact Sarita Lemons, PE, IEC
(949) 754-4379 • slemons@iecorporation.com

SEWER REPLACEMENT PROJECT COMING

Visit the City of El Monte's website for more project information: <http://www.ci.el-monte.ca.us/452/Ongoing-Projects>

The Friendly City of El Monte

PRÓXIMO PROYECTO PARA REEMPLAZAR EL ALCANTARILLADO SANITARIO

¡Por favor acompañenos a una junta comunitaria!
Miércoles 10 de Octubre, 2018 de 7:00pm-8:00pm
El Monte Community Center
3130 Tyler Avenue
El Monte, CA 91731

Para más información sobre este proyecto, visite el sitio de la
pagina web de la Ciudad de El Monte:
<http://www.ci.el-monte.ca.us/452/Ongoing-Projects>

下水道更換專案即將開始

請參加我們舉辦的社區會議！

2018 年 10 月 10 日 (星期三) 晚 7:00-8:00

艾爾蒙特社區中心
3130 Tyler Avenue
El Monte, CA91731

請查閱艾爾蒙特市網站，瞭解有關該專案的更多資訊：
<http://www.ci.el-monte.ca.us/452/Ongoing-Projects>

SẮP CÓ DỰ ÁN THAY MỚI ĐƯỜNG CỐNG

Hãy tham gia với chúng tôi tại một Buổi Họp Cộng Đồng!

Thứ Tư, 10 Tháng Mười, 2018 lúc 7:00 tối - 8:00 tối

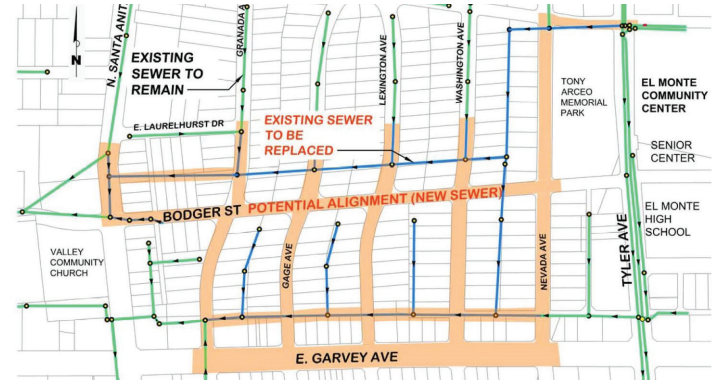
El Monte Community Center
3130 Tyler Avenue
El Monte, CA91731

Hãy đến website của Thành Phố El Monte để biết thêm chi tiết
dự án:

<http://www.ci.el-monte.ca.us/452/Ongoing-Projects>

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PINK IS INK FREE AREA

4" w x 2.7" h



City of El Monte Public Works
Sewer Replacement in the Nevada Avenue and Bodger Street Area
Scoping Meeting
July 30, 2019
7:00 PM

City of El Monte CEQA Scoping Meeting
El Monte Community Center
3130 Tyler Avenue
El Monte, CA 91731

CEQA Comment Sheet

The City of El Monte Public Works Department is preparing an Environmental Checklist Initial Study Pursuant to the California Environmental Quality Act (CEQA). We are interested in your comments and concerns related to the proposed project. Although not mandatory, we would appreciate having your name and contact information so that we may follow up with you.

Name: _____ Address: _____
Phone: _____ Email: _____

Please return comments to: Leticia Ortiz, El Monte Public Works,
Engineering Division 11333 Valley Blvd, El Monte, CA 91731
626-580-2022
Thank you!



City of El Monte Public Works
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Scoping Meeting
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7:00 PM

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Engineering Division 11333 Valley Blvd, El Monte, CA 91731
626-580-2022
Thank you!

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) SCOPING MEETING

City of El Monte Public Works – Sewer Replacement in the Nevada Avenue and Bodger Street Area

Welcome - Please Sign In!

Name	Contact Information
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:
	Address:
	Phone:
	Email:



CITY OF EL MONTE

NEVADA AVE & BODGER ST AREA SEWER
REPLACEMENT PROJECT

TUESDAY, JULY 30, 2019

CEQA ENVIRONMENTAL SCOPING MEETING

Spanish and Mandarin Interpreters Available

CIUDAD DE EL MONTE

NEVADA AVENUE Y BODGER STREET

**PROYECTO DE SUSTITUCIÓN DEL
ALCANTARILLADO**

REUNIÓN DE LA COMUNIDAD

MARTES 30 DE JULIO DE 2019

**我們提供中文口譯員服務
艾爾蒙提市**

NEVADA AVENUE 和BODGER STREET

下水道更換項目

社區會議

2019 年7 月30 日

Introductions



Project Objectives

- Replace an old, deteriorated sewer main →

**MINIMIZE RISK
OF SPILLS AND
BREAKS**

- Relocate pipe to public streets →

**IMPROVE
ACCESSIBILITY**

LEGEND:

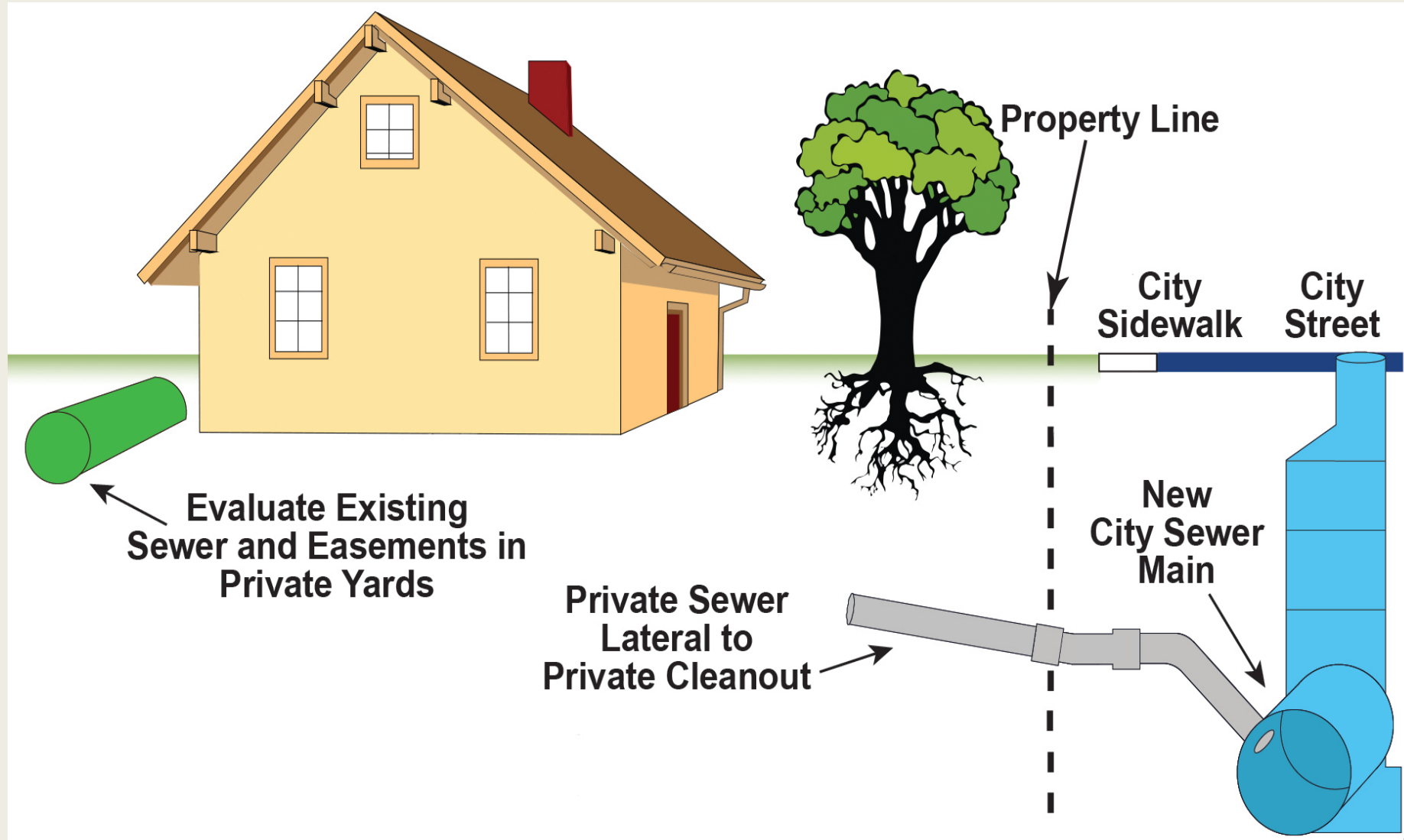
- EXISTING SEWER
- EXISTING ABANDONED SEWER
- EXISTING SEWER TO BE REPLACED/ABANDONED
- EXISTING LACSD SEWER
- EXISTING SEWER MH
- EXISTING ABANDONED SEWER MH
- EXISTING SEWER MH TO BE ABANDONED
- EXISTING SEWER MH TO BE REHABILITATED
- PROPOSED SEWER - ALTERNATIVE 3
- PROPOSED SEWER MH - ALTERNATIVE 3



SOUTH SYSTEM CONNECTION POINTS

E. GARVEY AVE

Sewer Lateral Relocations



Sewer Lateral Relocation

- City will need access to some properties during design and construction
- Letter of consent will be needed from each property owner
- All properties impacted will be left in pre-construction condition



Project Status

- Sewer Design - December 2019
- Environmental Process - January 2020
- Water Design – Spring 2020
- Construction Start – Summer/Fall 2020





CEQA PROCESS

City of El Monte Nevada and Bodger Sewer Replacement

Summary of CEQA

CEQA – California Environmental Quality Act, 1970

■ Purpose:

Identify and Disclose Impacts.

- Initial Study (IS), Mitigated or Negative Declaration (MND or ND) or Environmental Impact Report (EIR).
 - Prevent or minimize Impacts.
- Alternatives, mitigation measures, and mitigation monitoring.
 - Thorough Project Review Prior to Permit Issuance.
- Findings and statements of overriding consideration.

Public participation in the planning process.

- Scoping meetings, public notice, public review, hearings.

Coordinate with the public and other agencies.

- scoping meetings, notices of preparation, and State Clearinghouse review.

Consider the full scope of a proposed action or a series of actions.

- Temporary, permanent, cumulative, phases.

What is Considered a Project Under CEQA?

- Under CEQA, "Project" means an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:
 - (a) *An activity directly undertaken by any public agency.*
 - (b) *An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.*
 - (c) *An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.*

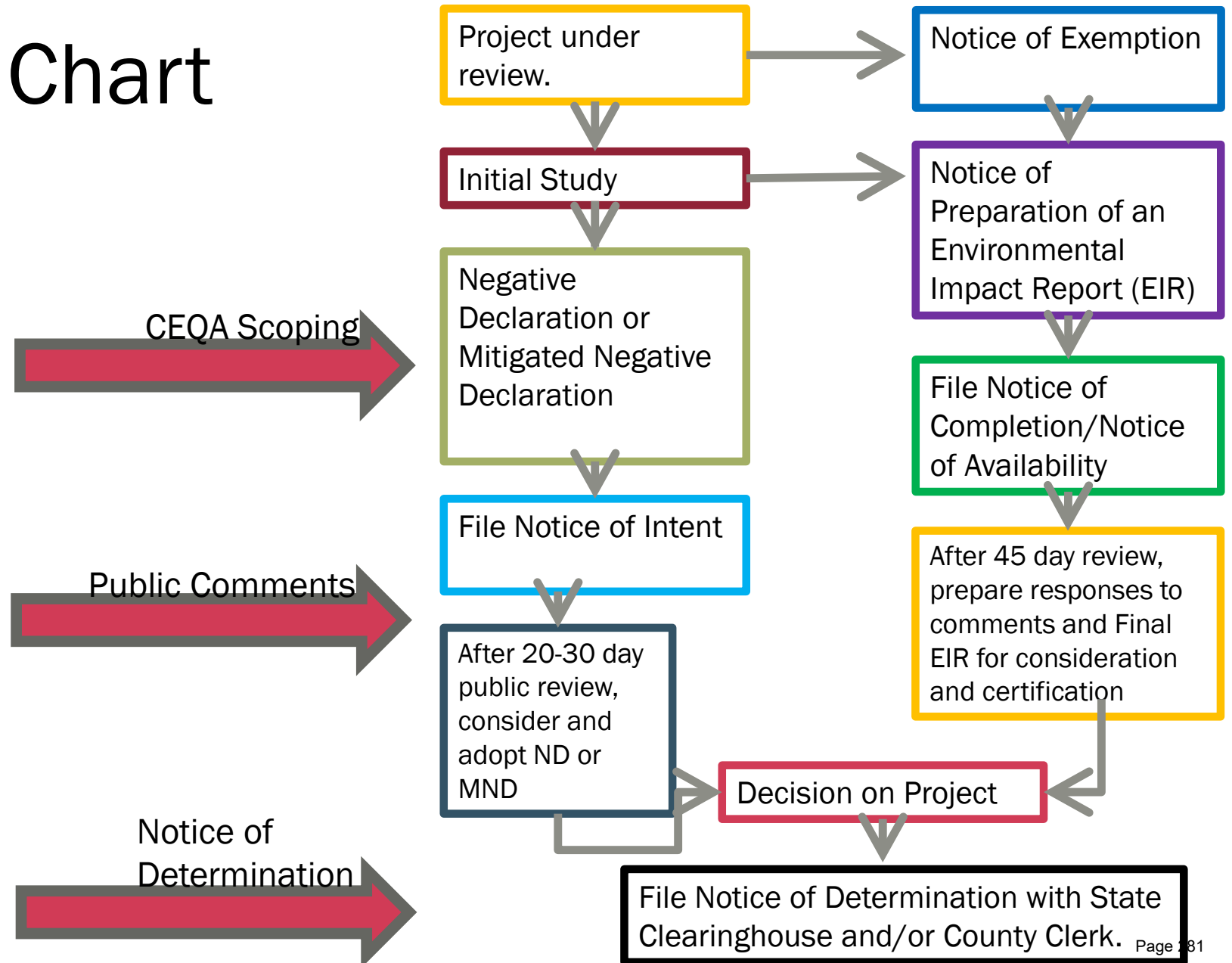
What is a Lead Agency?

- "Lead agency" means the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment. The Lead Agency is responsible for CEQA compliance for Projects

What is Scoping?

- Early and direct consultation with individuals and organizations that will be concerned with the environmental effects of the project.
- Identify potential actions, alternatives, mitigation measures.
- Identify significant effects to be analyzed in depth.
- Eliminate from detailed study issues found not to be important.
- Identify and resolve the concerns

CEQA Flow Chart



SAMPLE QUESTIONS

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>I. AESTHETICS. Except as provided in Public Resources Code Section 21099, it would the project:</u>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) <u>In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided

CEQA Checklist

- Appendix G of the CEQA Guidelines provides Thresholds of Significance
- Due diligence research and analysis
- Used in order to determine which CEQA environmental document will be prepared

CEQA Checklist Topics

Will the project have significant impacts on these issue areas?

Aesthetics	Agriculture and Forestry Resources	Air Quality	Biological Resources	Cultural Resources
Energy	Geology/Soils	Greenhouse Gas Emissions	Land Use/Planning	Mineral Resources
Noise	Population/Housing	Public Services	Recreation	Transportation
Tribal Cultural Resources	Utilities/Service Systems	Wildfire		



Mitigated Negative Declaration

- A negative declaration prepared for a project when the Initial Study has identified potentially significant effects on the environment, but
 - *(1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and*
 - *(2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment. (Public Resources Code §21064.5.)*

Mitigated Negative Declaration (MND) Contents

Project Name, Location,
Description, Objectives

Initial Study Checklist

Mitigation Measures

Mitigation Monitoring
and Reporting Plan

Mitigation Measures, PRC Section 21081.6

- Required for all potentially significant impacts
- Should identify who, what, where and when
- Be legally, technically, socially, politically and economically feasible
- Should avoid the impact altogether or minimize impacts by limiting the magnitude
- May reduce impacts by repairing, rehabilitating, restoring
- May reduce or eliminate impacts over time
- May compensate by replacing or providing substitute resources
- Included in the CEQA document prior to circulation for public review



QUESTIONS AND COMMENTS

Leticia Ortiz

Senior Public Works CIP

Engineer/Project Manager

City of El Monte

Public Works/Engineering

**11333 Valley Blvd, El Monte,
CA 91731**

626-580-2022

lortiz@elmonteca.gov

APPENDIX F



June 15, 2020

Ms. Lori Trotter, Environmental Project Manager
INFRASTRUCTURE ENGINEERING CORPORATION
300 Spectrum Center Drive, Suite 400
Irvine, California 92618

Re: El Monte Nevada Avenue at Bodger Street Sewer Improvement Project Air Quality, Greenhouse Gas & Energy Technical Memorandum
19258

Dear Ms. Trotter:

INTRODUCTION

The firm of Ganddini Group, Inc. is pleased to provide this air quality, greenhouse gas and energy technical memorandum for the proposed El Monte Nevada Avenue at Bodger Street Sewer Improvement project. The project area is generally bounded by the public right-of-way for Mildred Street on the north, Tyler on the East, East Garvey Avenue on the South, and North Santa Anita Avenue on the west. A project boundary map and project alignment map are provided on Figures 1 and 2 respectively. A glossary is provided in Appendix A to assist the reader with technical terms related to air quality analysis.

PROJECT DESCRIPTION

The project will construct replacement gravity sewer mains in public streets and will relocate portions of the City sewer system to improve access for City maintenance and sewer system reliability and function. The project will be designed to current standards and constructed of materials that are more resistant to deterioration, breaks, and blockages than existing facilities. Existing sewers are constructed of vitrified clay pipe, with some segments too flat by current design standards, which impacts velocities and increases the likelihood of buildups to occur. The existing sewer system velocity at the peak flow is less than two (2) feet per second (fps), which is considered the velocity at which solids remain suspended and the sewer is "self-cleaning". Without this "self-cleaning" action, debris can build up, potentially backing up the sewer and causing odor issues. Therefore, the project proposes new sewer lines that will be constructed of polyvinyl chloride (PVC) and designed with increased slopes to achieve higher velocities.

Existing and proposed gravity sewer mains, direction of flows, manholes and proposed points of connection are shown in Figure 2. The project will relocate and replace approximately 5,450 linear feet of existing small diameter (8-inch and 12-inch) gravity sewer. This includes a 450-linear foot section of new sewer main proposed in Mildred Street between Granada Avenue and North Santa Anita Avenue, which will be replaced with an 8-inch sewer main in the street adjacent to the existing sewer main. This improvement is needed due to a sag in the pipe that is causing sewer to back up in the system; the replacement main in this segment will either be installed in the same trench or a parallel trench along the existing pipeline. The replacement pipeline in Mildred Street will remain the same size as the existing and will not alter the current sewer operations in terms of volume or capacity.

The project will bring the sewer system up to current City Standards and improve overall reliability, as described above, by constructing new gravity sewer mains and manholes, and rehabilitating existing manholes, within the project boundaries. The project will also construct new gravity four-inch sewer laterals for service connections between cleanouts on adjacent private parcels and the new sewer mains in the streets. Existing sewer mains and laterals currently located on private property will be abandoned in place with a slurry fill, flowable cementitious material, and capped ends.

Project Components	
New Manholes	30
Rehabilitation Manholes	11
New Relocated Gravity Sewer Collector Main	Approximately 5,000 linear feet
Parallel Replacement Sewer	Approximately 450 linear feet
Existing Sewer Line to be Abandoned in Place	Approximately 4,300 linear feet
Sewer Laterals	Approximately 16,000-25,000 feet

Effluent volume will not change with the project and sewer service will not be interrupted during construction. The project will reroute flows from the north end of the project into a different basin at the south end of the project. Upsizing from 6-inch diameter to 8-inch diameter mains and to 12-inch diameter mains in some locations is proposed to meet current City design criteria.

- The project will replace and relocate existing mains north of Bodger Street, that currently flow into the City sewer in a westerly direction towards North Santa Anita Avenue and ultimately into the City sewer system heading west on Bodger Street. This project proposes to re-route those flows to a separate basin south of Bodger Street on Granada Avenue, which will ultimately be conveyed to a Sanitation Districts of Los Angeles County (LACSD) trunk sewer on Santa Anita Avenue.
- Existing mains south of Bodger currently flow into a southerly separate basin and connect to the City collection system on Granada Avenue and ultimately into to LACSD facilities heading south on Santa Anita Avenue and then into the Whittier Narrows Water Reclamation Plant. This project proposes to replace those pipelines and maintain the direction of flow and connection to the LACSD trunk sewer.
- Existing mains will be abandoned in place. Abandonment in place will involve filling the old sewer mains with cement slurry (a liquid form of concrete typically used in construction) and capping the ends of the pipe.
- Service laterals will be constructed in building setbacks on private parcels to connect existing cleanouts to new sewer mains in the streets and will require some removal/replacement of ancillary structures and landscaping on private property.

PROJECT PHASING AND SCHEDULE

Construction will be phased in a sequential and linear manner with each segment consisting of approximately 100-500 linear feet of new gravity sewer main installed each day between connection points. Each segment of new gravity sewer main will take approximately one to two months to complete. The project is estimated to take a total of 10-months to complete and will be implemented to avoid conflicts with the operations of school and community facilities which are adjacent to the project and in the project Vicinity.

A traffic control plan will be implemented with the project to detour through traffic around active construction zones and to limit access within active construction zones to essential trips. Contractor and staff will communicate with the City and the schools and community facilities operators so that active construction phasing occurs near these facilities during times when facility use is low. Likewise, the contractor shall provide

advance notice on when, where and what types of construction will take place at various locations near these facilities. Communication will be by mail or door hangers regarding partial street closures, construction activities, and detours. A project hotline will be established and posted within the project area for community feedback.

A construction crew will be on each affected private property for approximately one to four weeks to construct and connect new laterals to each existing cleanout and to connect new laterals to the new gravity sewer main. Each parcel will be reviewed in the field to determine the location of existing lateral and cleanouts and where the new replacement laterals can be located to minimize disruption of the existing site and occupants in advance of construction. Existing segments of sewer main will be abandoned-in-place after new pipelines are fully installed, tested, and ready for operation. Abandonment in place will involve filling the old sewer mains with a slurry and capping in place. Construction activities will generally consist of the following:

- Existing surface features will be cleared, and pavement will be saw-cut and removed for the full width of the trench (24-inches to 36-inches). Trench depths will range throughout the project between 5- to 15-feet deep depending on connections to existing facilities.
- Soil under the pavement will be excavated to create a new pipeline trench. Native soils that are removed from the trench will be tested to determine suitability for reuse and temporarily stockpiled alongside the trench alignment (within the allowable working corridor in the street) while the new pipeline is being installed and until the native soils can be used to backfill the trench or transported for disposal of at an appropriate landfill. The work area needed within the street for pipeline construction is anticipated to be 10- to 20-feet wide to accommodate equipment, workers, tools, materials, and temporary stockpiles. The work area in the street will be approximately 15 feet by 20 feet for each manhole.
- An excavator will be used to install pipe sections into the bottom of the trench. Trucks, backhoes, and/or loaders will bring imported crushed rock into place within the pipe zone (the zone within approximately 1-foot surrounding the new pipeline).
- Excess soil or unsuitable soils will be hauled from the site and disposed of at an approved land fill. Clean fill will be brought to the site, if needed as backfill, to restore trenches to existing topography.
- The trench zone (the area above the pipe zone to existing grades) will be backfilled with material previously excavated from the trench and stabilized, unless any native excavated materials are found to be unsuitable and clean imported materials are required as determined by the City inspector or geotechnical engineer.
- New manholes will be constructed.
- Following proper compaction of all trench backfill, the trench will be repaved with temporary asphalt in accordance with the City requirements. Following the completion of all pipeline construction, existing manholes will be rehabilitated, and temporary pavement will be laid over disturbed areas. The City intends to repave the full width of the street.
- Trenches that are not backfilled by the end of each day will be covered with trench plates to reestablish the normal flow of traffic during non-working hours.

After installation, all segments of pipeline will be installed, backfilled, tested, verified, and then connected to City of El Monte sewer systems. Manhole construction will include excavation, installation of a cast-in-place concrete foundation base with benching/shelves and sloped channels for proper sewer flow, installation of pre-cast concrete risers (wall) from the base to the surface, and installation of cast iron manhole frames and covers (for access) at the paved surface. Temporary sewer bypassing will be required (by either use of a Vactor truck, bypass plugs, and/or bypass pumps) in order to maintain continuous sewer service during construction of new manholes and connections to existing facilities. It is anticipated that existing cleanouts will be used as connections with most new laterals; however, some existing cleanouts may need to be replaced. Manhole rehabilitation will consist of rehabilitating and lining the inside surface of the manholes.

The crews working on the mains in the streets will not exceed 15 individuals at any one time and the crews working on the sewer laterals and cleanouts on private parcels will not exceed 5 individuals at any one time. Project components near El Monte High School are expected to be completed during summer when school is not in session.

PERMITS AND APPROVALS

There will be a Storm Water Pollution Prevention Plan prepared for the project, in compliance with the State Water Board's General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). The SWPPP will identify all potential pollution sources that could come into contact with stormwater leaving the project Area during construction. It will contain BMPs, such as cleaning track-out areas, covering haul loads and stockpiles, that will reduce dust, debris and pollutants entering surface flows from the project during construction and will include record keeping of site inspections and the follow-up maintenance that is to be performed. A copy of the SWPPP will be kept at the construction site within the project area during the entirety of construction for compliance recordkeeping and for reference. The project will be in compliance with the City of El Monte's Tree Protection and Preservation Ordinance, Chapter 14.03 of the El Monte Municipal Code (EMMC), as applicable as discussed in Section 14.1, 14.4 and 14.10 herein. Work on private property will be subject to Planning Department approval. Full, complete, and bid-ready construction plans, and specifications will be prepared in compliance with the Public Works Greenbook and EMMC.

Table 1 shows the SCAQMD Air Quality Significance Thresholds.

SENSITIVE RECEPTORS IN PROJECT VICINITY

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain on-site for 24 hours.

The project vicinity includes land within a 300-foot radius of the project and incorporates the locations of the closest sensitive receptors, primarily schools within ¼ mile of the project. The land within the project area is urbanized and developed with Low Density Residential land use and includes some existing Commercial, Mixed use, Multi-family Residential, and Public Facilities. Public Facilities located within the project vicinity include El Monte Community Center, Senior Citizens Center, Historical Museum (referred to herein as the Cultural Complex). Other sites within the project vicinity, which are used by the community and for events, include Tony Arceo Memorial Park, El Monte High School, and El Monte Aquatic Center to the east of the project. Multi-family homes, commercial businesses, churches and schools, are peripherally located in the Project Vicinity within a 300-foot radius or approximately ¼ mile of the project for the nearest schools.

Medium Density Residential, multi-family residences, are adjacent to El Monte High School to the east of Tyler Avenue and to the west across North Santa Anita Avenue and to the southeast across East Garvey Avenue. Single-family residences are to the north. Potentially sensitive properties within and adjacent to the project vicinity include single family residences, the public park, a convalescent home, and the following schools and properties within ¼ mile of the project and are listed below:

Adjacent to the East

- Tony Arceo Memorial Park, located at 3125 Tyler Avenue (a 3.4-acre neighborhood park with various play structures and outdoor picnic areas).

- El Monte Community Center facilities are adjacent to the east and include:
 - El Monte Senior Citizens Center, 3120 Tyler Avenue.
 - El Monte Community Center, 3130 Tyler Avenue.
 - El Monte Historical Museum, 3150 Tyler Avenue.

East across Tyler Avenue:

- El Monte High School, 3048 Tyler Avenue (a 28-acre campus east of Tyler Avenue that includes outdoor baseball fields and an outdoor track and football field).
- El Monte Aquatic Center, 11001 Mildred Street.
- Rio Hondo College Educational Center, 3017 Tyler Avenue.

West across North Santa Anita Avenue

- Wilkerson Elementary School, 2700 Doreen Avenue.
- New Lexington Elementary School, 10410 East Bodger Street.
- Elmcrest Care Center, 3111 Santa Anita Avenue.
- Shining Star Pre School, 3215 Santa Anita Avenue.

South across East Garvey Avenue

- Sunset Manor Convalescent Home, 2720 Nevada Avenue.

North across I-10

- El Monte Christian Academy, 11129 Brockway Street.

SHORT-TERM AIR QUALITY AND GREENHOUSE GAS CONSTRUCTION IMPACTS

An analysis of the potential short-term air quality impacts due to regional air quality and local air quality impacts with the construction of the proposed sewer improvement project is provided. As described above, the project is anticipated to be constructed in phases in a sequential and linear manner with each segment consisting of approximately 100-500 linear feet of new gravity sewer main installed each day between connection points. The project includes the installation of 5,450 linear feet of new sewer line. The area of disturbance for the entire project was estimated to be 109,000 SF (5,450 feet x 20 feet). The streets will be re-paved after installation of the sewer pipeline and laterals; therefore, the project analyzed the following phases: 1) site preparation, 2) installation of the pipeline, 3) paving, and 4) application of architectural coatings. Construction is anticipated to begin no sooner than September 2020 taking approximately 10 months to complete with completion estimated in June 2021. CalEEMod output is shown in Appendix B.

CONSTRUCTION-RELATED REGIONAL AIR QUALITY IMPACTS

The construction-related criteria pollutant emissions for the construction of the proposed sewer improvement project are shown below in Table 2. It was anticipated that pipe installation, paving, and architectural coating phases may overlap; therefore, those phases were added together. Table 2 shows that none of the analyzed criteria pollutants would exceed the regional emissions thresholds. Therefore, a less than significant regional air quality impact would occur from construction of the proposed sewer improvement project.

CONSTRUCTION-RELATED LOCAL AIR QUALITY IMPACTS

Construction-related air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The proposed sewer improvement project has been analyzed

for the potential local air quality impacts created from: construction-related fugitive dust and diesel emissions; from toxic air contaminants; and from construction-related odor impacts.

The emission thresholds were calculated based on the South San Gabriel Valley, source receptor area (SRA) 9 and a disturbance value of one acre per day (see Table 3). According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25 meter thresholds. The nearest sensitive receptors are the existing residential and public facility uses located adjacent to the proposed project area; therefore, the SCAQMD Look-up Tables for 25 meters was used. As shown in Table 4, none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, impacts are considered to be less than significant.

CONSTRUCTION-RELATED GREENHOUSE GAS (GHG) EMISSIONS IMPACTS

Construction-related GHG emissions were also included in the analysis and were based on a 30 year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod in the manner detailed above. The construction of the project would generate a total of 306.71 MTCO₂e, which equals 10.22 MTCO₂e/year (amortized over 30 years). Please see the Annual CalEEMod Output in Appendix B for details.

ENERGY ANALYSIS

Section 15126.2 of the CEQA Guidelines, states that potential energy impacts must be considered in an Environmental Impact Report (EIR). Although, this project does not require an EIR, energy impacts have been analyzed for discussion purposes.

The project would utilize construction contractors which practice compliance with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with these measures would result in a more efficient use of construction-related energy and would minimize or eliminate wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

Therefore, project construction would not result in the inefficient, wasteful or unnecessary consumption of energy. Further, the energy demands of the project can be accommodated within the context of available resources and energy delivery systems. The project would therefore not cause or result in the need for additional energy producing or transmission facilities. The project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservation goals within the State of California. Notwithstanding, the project proposes sewer improvements and will not have any long-term effects on an energy provider's future energy development or future energy conservation strategies.

AIR QUALITY DUST CONTROL AND TOXIC AIR CONTAMINANT BMP MEASURES

AQ-1 Equipment emissions, Toxic Airborne Contaminants, and Fugitive Dust Emissions controls will be implemented during all earthwork, including demolition, trenching, backfilling, hauling and stockpiling, to reduce airborne dust contributing to PM₁₀ and PM_{2.5} for compliance with SCAQMD Rule 403 and airborne toxics related to elevated levels of Lead and Arsenic (exceeding 80 mg/kg) for compliance with SCAQMD Rule 1466. Project compliance with SCAQMD Rules 403 and 1466 will

include the following controls to reduce fugitive dust and Toxic Airborne Contaminants and will be implemented by the contractor throughout construction:

- a) If applicable, the contractor shall obtain and implement an approved Fugitive Dust Emissions Control Plan for Large Operations. Said plan shall be approved by SCAQMD pursuant to Rule 403 and implemented throughout construction to reduce PM10 and PM2.5.
- b) During all earthwork, the contractor shall implement dust control with Best Available Control Measures and Dust Control Measures for Large Operations (Rule 403 Tables 1 and 2) as approved by SCAQMD.
- c) All disturbed soils shall be field screened with an X-ray Fluorescence Instrument or functional equivalent upon groundbreaking to determine the horizontal and lateral extent of elevated levels of Lead and Arsenic content exceeding EPA and DTSC thresholds of significance of 80 mg/kg which is the threshold of applicability of SCAQMD Rule 1466.
- d) Soil stockpiles exceeding the EPA and DTSC standards shall be separated pursuant to Rule 1466 Section 4 A-F.
- e) If applicable, based upon said field testing for Lead and Arsenic, the following measures that are specified in SCAQMD Rule 1466 shall be implemented by the contractor to reduce Toxic Air Contaminants associated with Lead and Arsenic in soils and particulate matter, 10 microns or less in size. It is anticipated that at a minimum the following measures described in Rule 1466 will be needed for earthwork near boring locations B-1, B-4 and B-6 shown on Figure 9 of the ISMND:
 - a. Designate a qualified Dust Control Supervisor as specified in Rule 1466 Section (e) (9), A-E;
 - b. Provide PM10 monitoring both upwind and downwind during earth-moving activities per SCAQMD Rule 1466 Section (d) Monitoring Requirements;
 - c. The City and Contractor shall maintain records of earthmoving activities per Rule 1466 Section (h) for a period of not less than 1 year including monitoring, instrument calibration, manifest records for transport, volumes of soils with Lead and Arsenic, distances between areas of active construction, contamination and the nearest residence, park or school, and document any complaints;
 - d. Minimize fugitive dust by installing minimum 6-foot tall barrier fencing per SCAQMD Rule 1466 Section (e) (1) where earthmoving activities are carried out, and provide fencing at least as high as stockpiles;
 - e. Apply water or other soils stabilizers prior to earthmoving activities and maintain moisture content to prevent generation of visible dust plumes;
 - f. Apply soil stabilizers to inactive disturbed surfaces (e) (10).
 - g. When conducting earth-moving activities, the contractor and the City shall install and maintain project signage per specifications stated in SCAQMD Rule 1466 Section (g) Signage Requirements. This includes signs at all entrances including a local or toll free number that is accessible 24 hours a day, warning statement for Lead and Arsenic, limiting speed limit to 15 miles per hour;
 - h. At the end of each day, chemically stabilize or cover disturbed surfaces and stockpiles with an anchored tarp. Apply stabilizers and cover haul loads prior to unloading;
 - i. Remove track-out on pavement adjacent to areas of active construction with a vacuum equipped with filters rated to achieve 99.97% capture efficiency for 0.3-micron particles;
 - j. Install a wheel wash system or equivalent listed in Rule 1466 Section 3, E and prevent track-out and clean soils from the exterior of trucks, trailers and tires prior to leaving the project area;

- k. Segregate and label, Toxic Air Contaminants. Apply stabilizers, and 10mm plastic overlapping and anchored sheeting to contaminated stockpiles;
- l. Cease activities during high winds (15 miles per hour over a 15-minute period or instantaneous wind speeds exceeding 25 MPH);
- m. Prohibit operation for earth-moving activities adjacent to athletic areas as defined in Rule 1466 Section (e) (11) during early education center sponsored activities or youth organized sports per Rule 1466 Section (e) (11);
- n. Proper notification of SCAQMD, at least 72-hour advance notification and not more than 30 days, prior to earthmoving per Rule 1466 Section (f) Notification Requirements;
- o. Minimize fugitive dust during truck loading and unloading per Rule 1466 Section (e) (5 and 6)

AQ-2 Construction emissions will be reduced (as applicable) according to the following:

- a) Areas of active earthwork and construction will involve not more than 100 to 500 linear feet of pipeline each day.
- b) Disturbed areas will be stabilized at the end of each day with trench plates or backfilled and temporary resurfacing applied.
- c) Construction phasing shall avoid active construction during events at nearby public facilities and schools shown on Figure 2 of the ISMND including but not limited to (Tony Arceo Memorial Park, El Monte Community Center, El Monte Aquatics Center and El Monte High School).
- d) Idling on construction equipment and vehicles will be limited to 15 minutes.
- e) If required, the project will implement EPA Tier IV mitigation consisting of exhaust filters on non-road vehicles and equipment to reduce exhaust from diesel powered engines in compliance with the AQMP.
- f) If required, the project will implement Tier III engines pursuant to EPA Standards for non-road vehicles and equipment.

AQ-3 Project plans and specifications shall incorporate a temporary signage plan for the project as required in AQ-1, g which shall be verified by the City Engineer, and shall include a feedback phone number. The Contractor shall post project area will be with a phone number intended for 24/7 feedback to the Contractor and City from the community according to approved plans.

CONCLUSIONS

It has been a pleasure to assist you with this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Respectfully submitted,



Katie Wilson, M.S.
Senior Air Quality Analyst

Table 1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550
Lead	3	3
Toxic Air Contaminants, Odor and GHG Thresholds		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index > 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2e for industrial projects	
Ambient Air Quality Standards		
Pollutant	SCAQMD Standards	
NO2 -1-hour average	0.18 ppm (338 µg/m^3)	
PM10 -24-hour average Construction Operations	10.4 µg/m^3 2.5 µg/m^3	
PM2.5 -24-hour average Construction Operations	10.4 µg/m^3 2.5 µg/m^3	
SO2 1-hour average 24-hour average	0.25 ppm 0.04 ppm	
CO 1-hour average 8-hour average	20 ppm (23,000 µg/m^3) 9 ppm (10,000 µg/m^3)	
Lead 30-day average Rolling 3-month average Quarterly average	1.5 µg/m^3 0.15 µg/m^3 1.5 µg/m^3	

Source: <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>

Table 2
Construction-Related Regional Pollutant Emissions

Activity		Pollutant Emissions (pounds/day)					
		ROG	NOx	CO	SO ₂	PM10	PM2.5
Site Preparation	On-Site ¹	1.30	12.13	11.85	0.02	0.79	0.74
	Off-Site ²	0.05	1.33	0.43	0.00	0.13	0.04
	Subtotal	1.35	13.46	12.28	0.02	0.92	0.78
Installation of Pipeline	On-Site ¹	0.93	8.67	10.74	0.02	0.47	0.44
	Off-Site ²	0.04	0.98	0.37	0.00	0.10	0.03
	Subtotal	0.97	9.65	11.12	0.02	0.57	0.47
Paving	On-Site ¹	1.16	8.72	9.90	0.02	0.47	0.43
	Off-Site ²	0.01	0.01	0.12	0.00	0.03	0.01
	Subtotal	1.17	8.73	10.02	0.02	0.50	0.44
Architectural Coating	On-Site ¹	0.53	1.53	1.82	0.00	0.09	0.09
	Off-Site ²	0.01	0.01	0.12	0.00	0.03	0.01
	Subtotal	0.54	1.54	1.94	0.00	0.13	0.10
Total for overlapping phases ³		2.68	19.92	23.07	0.04	1.19	1.01
SCAQMD Thresholds		75	100	550	150	150	55
Exceeds Thresholds?		No	No	No	No	No	No

Notes:

Source: CalEEMod Version 2016.3.2

- (1) On-site emissions from equipment operated on-site that is not operated on public roads. On-site grading PM-10 and PM-2.5 emissions show mitigated values for fugitive dust for compliance with SCAQMD Rule 403.
- (2) Off-site emissions from equipment operated on public roads.
- (3) Installation of pipeline, paving and architectural coating phases may overlap.

Table 3
Maximum Number of Acres Disturbed Per Day

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Site Preparation	Crawler Tractors ¹	2	0.5	1
Total for phase		-	-	1
Installation of Pipeline	Crawler Tractors ¹	2	0.5	1
Total for phase		-	-	1

Notes:

Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds, 2011b.

(1) Tractor/loader/backhoe is a suitable surrogate for a crawler tractor per SCAQMD staff.

Table 4
Local Construction Emissions at the Nearest Receptors

Activity ¹	On-Site Pollutant Emissions (pounds/day) ²			
	NOx	CO	PM10	PM2.5
Site Preparation	12.13	11.85	0.79	0.74
Installation of Pipeline	8.67	10.74	0.47	0.44
Paving	8.72	9.90	0.47	0.43
Architectural Coating	1.53	1.82	0.09	0.09
SCAQMD Thresholds ³	89	623	5	3
Exceeds Threshold?	No	No	No	No

Notes:

- (1) The project will disturb up to a maximum of 1 acre a day during site preparation (see Table 3).
- (2) Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 1 acre at a distance of 25 meters in SRA 9 East San Gabriel Valley.
- (3) The nearest sensitive receptors are the existing residential uses located adjacent to the pipeline alignment; therefore, the 25 meter threshold was used.

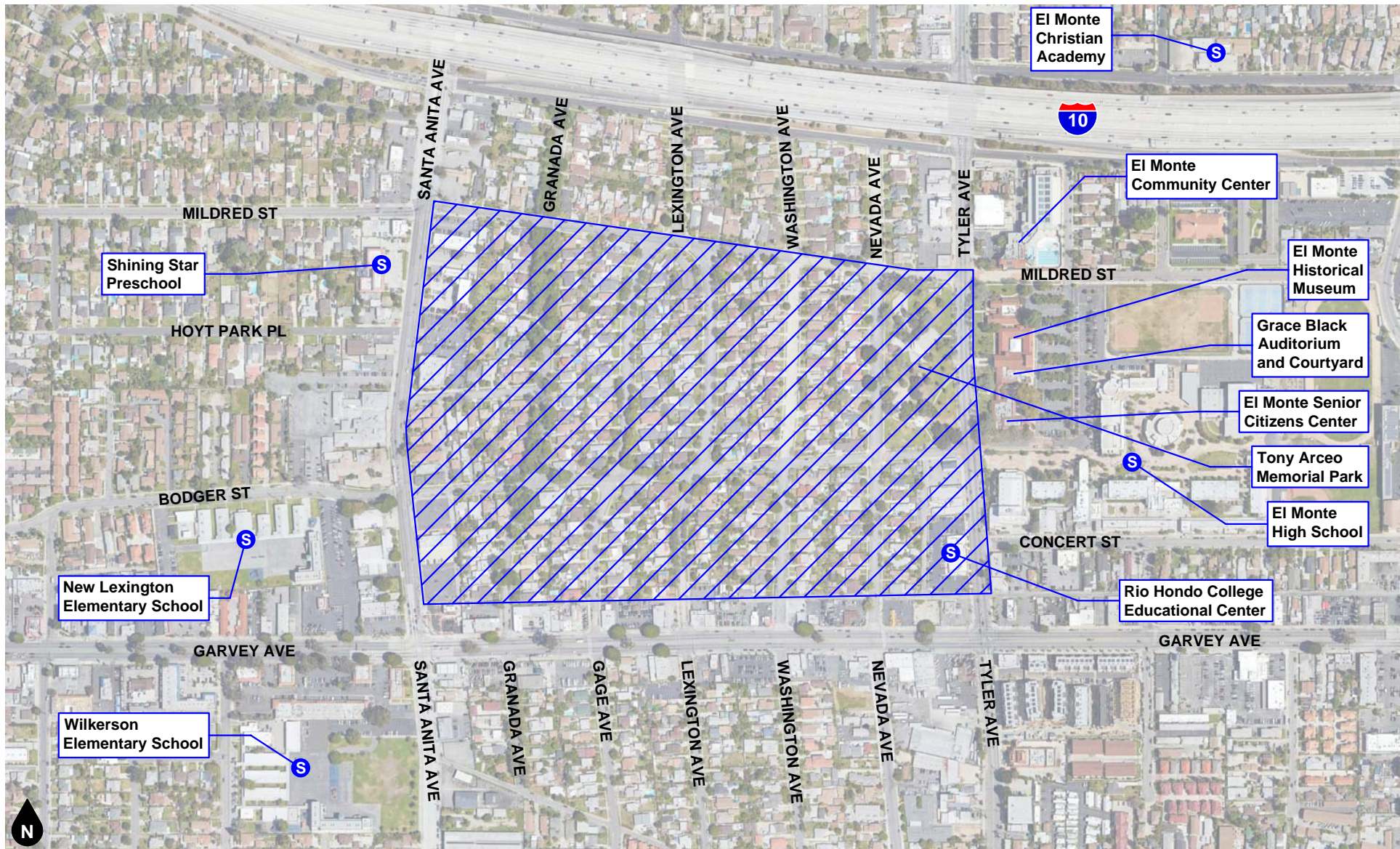


Figure 1
Project Boundary Map



Figure 2
Project Alignment Map

APPENDIX A

GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DPM	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
MTCO ₂ e	Metric tons of carbon dioxide equivalent
MMTCO ₂ e	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxides
NO ₂	Nitrogen dioxide
N ₂ O	Nitrous oxide
O ₃	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM ₁₀	Particles that are less than 10 micrometers in diameter
PM _{2.5}	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANBAG	San Bernardino Association of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SSAB	Salton Sea Air Basin
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SO _x	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

CALEEMOD MODEL EMISSIONS PRINTOUTS

El Monte Pipeline - Los Angeles-South Coast County, Summer

El Monte Pipeline

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	109.00	1000sqft	2.50	109,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction analysis for sewer pipeline installation only.

Land Use - 5,450 LF of new pipeline to be installed. 100-500 LF of pipeline to be installed per day. Disturbance width of 20 feet = 5,000 SF per day; 109,000 SF total.

Construction Phase - Construction to last ~10 months starting ~September 2020 and finishing ~June 2021

Off-road Equipment -

Off-road Equipment - Excavator, tractor/loader/backhoes (x2), dumper truck, generator set

Off-road Equipment - 1 roller

Off-road Equipment - Pavement cutter, tractor/loader/backhoe (x2), skid steer loader, trencher, street sweeper. Water truck added to trips.

Trips and VMT - Trips added to vendor trips for account for water trucks and delivery trucks for soil, crushed rock and pipes. Crew work trucks = 2-3 per day.

Grading - ~3,300 CY to be exported for gravity main plus sewer laterals

Architectural Coating - 1,800 SF to be painted (6% of 30,000 SF area to be paved)

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	6,540.00	1,800.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	27.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	NumDays	3.00	107.00
tblGrading	MaterialExported	0.00	3,300.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	9.00	3.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.3544	13.4574	12.2805	0.0209	0.1283	0.7967	0.9250	0.0343	0.7450	0.7793	0.0000	2,055.5838	2,055.5838	0.4400	0.0000	2,066.5845
2021	2.1416	18.3802	21.1346	0.0354	0.3537	0.9344	1.0655	0.0896	0.8720	0.9082	0.0000	3,413.2019	3,413.2019	0.8629	0.0000	3,434.7733
Maximum	2.1416	18.3802	21.1346	0.0354	0.3537	0.9344	1.0655	0.0896	0.8720	0.9082	0.0000	3,413.2019	3,413.2019	0.8629	0.0000	3,434.7733

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.3544	13.4574	12.2805	0.0209	0.1262	0.7967	0.9229	0.0340	0.7450	0.7790	0.0000	2,055.5838	2,055.5838	0.4400	0.0000	2,066.5845
2021	2.1416	18.3802	21.1346	0.0354	0.3515	0.9344	1.0655	0.0893	0.8720	0.9082	0.0000	3,413.2019	3,413.2019	0.8629	0.0000	3,434.7733
Maximum	2.1416	18.3802	21.1346	0.0354	0.3515	0.9344	1.0655	0.0893	0.8720	0.9082	0.0000	3,413.2019	3,413.2019	0.8629	0.0000	3,434.7733

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.88	0.00	0.11	0.52	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	1/27/2021	5	107	
2	Installation of pipeline	Trenching	1/28/2021	6/25/2021	5	107	
3	Paving	Paving	4/19/2021	5/19/2021	5	23	
4	Architectural Coating	Architectural Coating	5/20/2021	6/25/2021	5	27	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,800

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	6.00	81	0.73
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Trenchers	1	8.00	78	0.50
Installation of pipeline	Dumpers/Tenders	1	6.00	16	0.38
Installation of pipeline	Excavators	1	8.00	158	0.38
Installation of pipeline	Generator Sets	1	6.00	84	0.74
Installation of pipeline	Graders	0		187	0.41
Installation of pipeline	Rubber Tired Dozers	0		247	0.40
Installation of pipeline	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	3.00	2.00	413.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Installation of pipeline	5	3.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4900e-003	0.0000	3.4900e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	1.2998	12.1250	11.8475	0.0170		0.7918	0.7918		0.7404	0.7404		1,634.5604	1,634.5604	0.4131		1,644.8866
Total	1.2998	12.1250	11.8475	0.0170	3.4900e-003	0.7918	0.7953	5.3000e-004	0.7404	0.7409		1,634.5604	1,634.5604	0.4131		1,644.8866

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0337	1.1099	0.2459	3.0500e-003	0.0785	3.5400e-003	0.0821	0.0212	3.3900e-003	0.0246		330.3351	330.3351	0.0225		330.8972
Vendor	7.1100e-003	0.2127	0.0557	5.2000e-004	0.0128	1.0000e-003	0.0138	3.6900e-003	9.6000e-004	4.6400e-003		55.4049	55.4049	3.3800e-003		55.4895
Worker	0.0138	9.8200e-003	0.1314	3.5000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		35.2834	35.2834	1.1100e-003		35.3112
Total	0.0546	1.3324	0.4330	3.9200e-003	0.1248	4.8200e-003	0.1297	0.0338	4.6100e-003	0.0384		421.0234	421.0234	0.0270		421.6979

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3600e-003	0.0000	1.3600e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.2998	12.1250	11.8475	0.0170		0.7918	0.7918		0.7404	0.7404	0.0000	1,634.5604	1,634.5604	0.4131		1,644.8866
Total	1.2998	12.1250	11.8475	0.0170	1.3600e-003	0.7918	0.7932	2.1000e-004	0.7404	0.7406	0.0000	1,634.5604	1,634.5604	0.4131		1,644.8866

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0337	1.1099	0.2459	3.0500e-003	0.0785	3.5400e-003	0.0821	0.0212	3.3900e-003	0.0246		330.3351	330.3351	0.0225		330.8972
Vendor	7.1100e-003	0.2127	0.0557	5.2000e-004	0.0128	1.0000e-003	0.0138	3.6900e-003	9.6000e-004	4.6400e-003		55.4049	55.4049	3.3800e-003		55.4895
Worker	0.0138	9.8200e-003	0.1314	3.5000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		35.2834	35.2834	1.1100e-003		35.3112
Total	0.0546	1.3324	0.4330	3.9200e-003	0.1248	4.8200e-003	0.1297	0.0338	4.6100e-003	0.0384		421.0234	421.0234	0.0270		421.6979

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4900e-003	0.0000	3.4900e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	1.1783	11.0999	11.7600	0.0170		0.6871	0.6871		0.6425	0.6425		1,634.9636	1,634.9636	0.4108		1,645.2344
Total	1.1783	11.0999	11.7600	0.0170	3.4900e-003	0.6871	0.6906	5.3000e-004	0.6425	0.6430		1,634.9636	1,634.9636	0.4108		1,645.2344

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0322	1.0354	0.2428	3.0100e-003	0.3038	3.1800e-003	0.3070	0.0765	3.0400e-003	0.0796		326.7124	326.7124	0.0222		327.2667
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003		54.9761	54.9761	3.2400e-003		55.0571
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0511	1.2384	0.4144	3.8600e-003	0.3502	3.8500e-003	0.3540	0.0891	3.6700e-003	0.0928		415.8517	415.8517	0.0264		416.5121

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3600e-003	0.0000	1.3600e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.1783	11.0999	11.7600	0.0170		0.6871	0.6871		0.6425	0.6425	0.0000	1,634.9636	1,634.9636	0.4108		1,645.2344
Total	1.1783	11.0999	11.7600	0.0170	1.3600e-003	0.6871	0.6884	2.1000e-004	0.6425	0.6427	0.0000	1,634.9636	1,634.9636	0.4108		1,645.2344

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0322	1.0354	0.2428	3.0100e-003	0.3038	3.1800e-003	0.3070	0.0765	3.0400e-003	0.0796		326.7124	326.7124	0.0222		327.2667
Vendor	6.0800e-003	0.1942	0.0508	5.1000e-004	0.0128	4.0000e-004	0.0132	3.6900e-003	3.8000e-004	4.0700e-003		54.9761	54.9761	3.2400e-003		55.0571
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0511	1.2384	0.4144	3.8600e-003	0.3502	3.8500e-003	0.3540	0.0891	3.6700e-003	0.0928		415.8517	415.8517	0.0264		416.5121

3.3 Installation of pipeline - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407		1,614.9733	1,614.9733	0.3852		1,624.6022
Total	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407		1,614.9733	1,614.9733	0.3852		1,624.6022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0304	0.9709	0.2538	2.5700e-003	0.0640	1.9900e-003	0.0660	0.0184	1.9000e-003	0.0203		274.8806	274.8806	0.0162		275.2855
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0433	0.9797	0.3747	2.9100e-003	0.0976	2.2600e-003	0.0998	0.0273	2.1500e-003	0.0295		309.0437	309.0437	0.0172		309.4737

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407	0.0000	1,614.9733	1,614.9733	0.3852		1,624.6022
Total	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407	0.0000	1,614.9733	1,614.9733	0.3852		1,624.6022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0304	0.9709	0.2538	2.5700e-003	0.0640	1.9900e-003	0.0660	0.0184	1.9000e-003	0.0203		274.8806	274.8806	0.0162		275.2855
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0433	0.9797	0.3747	2.9100e-003	0.0976	2.2600e-003	0.0998	0.0273	2.1500e-003	0.0295		309.0437	309.0437	0.0172		309.4737

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8738	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289		1,455.0218	1,455.0218	0.4595		1,466.5091
Paving	0.2848					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1586	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289		1,455.0218	1,455.0218	0.4595		1,466.5091

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8738	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289	0.0000	1,455.0218	1,455.0218	0.4595		1,466.5091
Paving	0.2848					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1586	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289	0.0000	1,455.0218	1,455.0218	0.4595		1,466.5091

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	0.5279	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	0.5279	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883
Total	0.0129	8.8400e-003	0.1208	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.1631	34.1631	1.0100e-003		34.1883

El Monte Pipeline - Los Angeles-South Coast County, Winter

El Monte Pipeline

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	109.00	1000sqft	2.50	109,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction analysis for sewer pipeline installation only.

Land Use - 5,450 LF of new pipeline to be installed. 100-500 LF of pipeline to be installed per day. Disturbance width of 20 feet = 5,000 SF per day; 109,000 SF total.

Construction Phase - Construction to last ~10 months starting ~September 2020 and finishing ~June 2021

Off-road Equipment -

Off-road Equipment - Excavator, tractor/loader/backhoes (x2), dumper truck, generator set

Off-road Equipment - 1 roller

Off-road Equipment - Pavement cutter, tractor/loader/backhoe (x2), skid steer loader, trencher, street sweeper. Water truck added to trips.

Trips and VMT - Trips added to vendor trips for account for water trucks and delivery trucks for soil, crushed rock and pipes. Crew work trucks = 2-3 per day.

Grading - ~3,300 CY to be exported for gravity main plus sewer laterals

Architectural Coating - 1,800 SF to be painted (6% of 30,000 SF area to be paved)

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	6,540.00	1,800.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	27.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	NumDays	3.00	107.00
tblGrading	MaterialExported	0.00	3,300.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	9.00	3.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.3571	13.4728	12.2907	0.0208	0.1283	0.7967	0.9250	0.0343	0.7450	0.7794	0.0000	2,046.3194	2,046.3194	0.4410	0.0000	2,057.3444
2021	2.1460	18.3801	21.1409	0.0352	0.3537	0.9344	1.0655	0.0896	0.8720	0.9082	0.0000	3,401.6757	3,401.6757	0.8638	0.0000	3,423.2707
Maximum	2.1460	18.3801	21.1409	0.0352	0.3537	0.9344	1.0655	0.0896	0.8720	0.9082	0.0000	3,401.6757	3,401.6757	0.8638	0.0000	3,423.2707

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	1.3571	13.4728	12.2907	0.0208	0.1262	0.7967	0.9229	0.0340	0.7450	0.7790	0.0000	2,046.3194	2,046.3194	0.4410	0.0000	2,057.3444
2021	2.1460	18.3801	21.1409	0.0352	0.3515	0.9344	1.0655	0.0893	0.8720	0.9082	0.0000	3,401.6757	3,401.6757	0.8638	0.0000	3,423.2707
Maximum	2.1460	18.3801	21.1409	0.0352	0.3515	0.9344	1.0655	0.0893	0.8720	0.9082	0.0000	3,401.6757	3,401.6757	0.8638	0.0000	3,423.2707

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.88	0.00	0.11	0.52	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	1/27/2021	5	107	
2	Installation of pipeline	Trenching	1/28/2021	6/25/2021	5	107	
3	Paving	Paving	4/19/2021	5/19/2021	5	23	
4	Architectural Coating	Architectural Coating	5/20/2021	6/25/2021	5	27	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,800

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	6.00	81	0.73
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Trenchers	1	8.00	78	0.50
Installation of pipeline	Dumpers/Tenders	1	6.00	16	0.38
Installation of pipeline	Excavators	1	8.00	158	0.38
Installation of pipeline	Generator Sets	1	6.00	84	0.74
Installation of pipeline	Graders	0		187	0.41
Installation of pipeline	Rubber Tired Dozers	0		247	0.40
Installation of pipeline	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56

Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	3.00	2.00	413.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Installation of pipeline	5	3.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4900e-003	0.0000	3.4900e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	1.2998	12.1250	11.8475	0.0170		0.7918	0.7918		0.7404	0.7404		1,634.5604	1,634.5604	0.4131		1,644.8866
Total	1.2998	12.1250	11.8475	0.0170	3.4900e-003	0.7918	0.7953	5.3000e-004	0.7404	0.7409		1,634.5604	1,634.5604	0.4131		1,644.8866

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0345	1.1242	0.2614	3.0000e-003	0.0785	3.6000e-003	0.0821	0.0212	3.4400e-003	0.0246		324.6466	324.6466	0.0233		325.2291
Vendor	7.4400e-003	0.2127	0.0615	5.0000e-004	0.0128	1.0200e-003	0.0138	3.6900e-003	9.7000e-004	4.6600e-003		53.8898	53.8898	3.6000e-003		53.9799
Worker	0.0153	0.0109	0.1203	3.3000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.2226	33.2226	1.0500e-003		33.2488
Total	0.0573	1.3478	0.4432	3.8300e-003	0.1248	4.9000e-003	0.1297	0.0338	4.6700e-003	0.0385		411.7590	411.7590	0.0280		412.4578

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3600e-003	0.0000	1.3600e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.2998	12.1250	11.8475	0.0170		0.7918	0.7918		0.7404	0.7404	0.0000	1,634.5604	1,634.5604	0.4131		1,644.8866
Total	1.2998	12.1250	11.8475	0.0170	1.3600e-003	0.7918	0.7932	2.1000e-004	0.7404	0.7406	0.0000	1,634.5604	1,634.5604	0.4131		1,644.8866

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0345	1.1242	0.2614	3.0000e-003	0.0785	3.6000e-003	0.0821	0.0212	3.4400e-003	0.0246		324.6466	324.6466	0.0233		325.2291
Vendor	7.4400e-003	0.2127	0.0615	5.0000e-004	0.0128	1.0200e-003	0.0138	3.6900e-003	9.7000e-004	4.6600e-003		53.8898	53.8898	3.6000e-003		53.9799
Worker	0.0153	0.0109	0.1203	3.3000e-004	0.0335	2.8000e-004	0.0338	8.8900e-003	2.6000e-004	9.1500e-003		33.2226	33.2226	1.0500e-003		33.2488
Total	0.0573	1.3478	0.4432	3.8300e-003	0.1248	4.9000e-003	0.1297	0.0338	4.6700e-003	0.0385		411.7590	411.7590	0.0280		412.4578

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4900e-003	0.0000	3.4900e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	1.1783	11.0999	11.7600	0.0170		0.6871	0.6871		0.6425	0.6425		1,634.9636	1,634.9636	0.4108		1,645.2344
Total	1.1783	11.0999	11.7600	0.0170	3.4900e-003	0.6871	0.6906	5.3000e-004	0.6425	0.6430		1,634.9636	1,634.9636	0.4108		1,645.2344

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0330	1.0481	0.2574	2.9600e-003	0.3038	3.2300e-003	0.3071	0.0765	3.0900e-003	0.0796		321.0527	321.0527	0.0230		321.6266
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003		53.4691	53.4691	3.4500e-003		53.5554
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0536	1.2516	0.4241	3.7800e-003	0.3502	3.9100e-003	0.3541	0.0891	3.7300e-003	0.0928		406.6894	406.6894	0.0274		407.3732

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3600e-003	0.0000	1.3600e-003	2.1000e-004	0.0000	2.1000e-004			0.0000			0.0000
Off-Road	1.1783	11.0999	11.7600	0.0170		0.6871	0.6871		0.6425	0.6425	0.0000	1,634.9636	1,634.9636	0.4108		1,645.2344
Total	1.1783	11.0999	11.7600	0.0170	1.3600e-003	0.6871	0.6884	2.1000e-004	0.6425	0.6427	0.0000	1,634.9636	1,634.9636	0.4108		1,645.2344

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0330	1.0481	0.2574	2.9600e-003	0.3038	3.2300e-003	0.3071	0.0765	3.0900e-003	0.0796		321.0527	321.0527	0.0230		321.6266
Vendor	6.3800e-003	0.1938	0.0562	5.0000e-004	0.0128	4.1000e-004	0.0132	3.6900e-003	3.9000e-004	4.0800e-003		53.4691	53.4691	3.4500e-003		53.5554
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0536	1.2516	0.4241	3.7800e-003	0.3502	3.9100e-003	0.3541	0.0891	3.7300e-003	0.0928		406.6894	406.6894	0.0274		407.3732

3.3 Installation of pipeline - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407		1,614.9733	1,614.9733	0.3852		1,624.6022
Total	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407		1,614.9733	1,614.9733	0.3852		1,624.6022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	0.9689	0.2808	2.5000e-003	0.0640	2.0500e-003	0.0661	0.0184	1.9600e-003	0.0204		267.3455	267.3455	0.0173		267.7770
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0462	0.9787	0.3913	2.8200e-003	0.0976	2.3200e-003	0.0999	0.0273	2.2100e-003	0.0295		299.5131	299.5131	0.0182		299.9682

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407	0.0000	1,614.9733	1,614.9733	0.3852		1,624.6022
Total	0.9269	8.6681	10.7439	0.0169		0.4669	0.4669		0.4407	0.4407	0.0000	1,614.9733	1,614.9733	0.3852		1,624.6022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0319	0.9689	0.2808	2.5000e-003	0.0640	2.0500e-003	0.0661	0.0184	1.9600e-003	0.0204		267.3455	267.3455	0.0173		267.7770
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0462	0.9787	0.3913	2.8200e-003	0.0976	2.3200e-003	0.0999	0.0273	2.2100e-003	0.0295		299.5131	299.5131	0.0182		299.9682

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8738	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289		1,455.0218	1,455.0218	0.4595		1,466.5091
Paving	0.2848					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1586	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289		1,455.0218	1,455.0218	0.4595		1,466.5091

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8738	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289	0.0000	1,455.0218	1,455.0218	0.4595		1,466.5091
Paving	0.2848					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1586	8.7235	9.8952	0.0152		0.4650	0.4650		0.4289	0.4289	0.0000	1,455.0218	1,455.0218	0.4595		1,466.5091

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	0.5279	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	0.5279	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912
Total	0.0143	9.7800e-003	0.1105	3.2000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		32.1675	32.1675	9.5000e-004		32.1912

El Monte Pipeline - Los Angeles-South Coast County, Annual

El Monte Pipeline
Los Angeles-South Coast County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	109.00	1000sqft	2.50	109,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction analysis for sewer pipeline installation only.

Land Use - 5,450 LF of new pipeline to be installed. 100-500 LF of pipeline to be installed per day. Disturbance width of 20 feet = 5,000 SF per day; 109,000 SF total.

Construction Phase - Construction to last ~10 months starting ~September 2020 and finishing ~June 2021

Off-road Equipment -

Off-road Equipment - Excavator, tractor/loader/backhoes (x2), dumper truck, generator set

Off-road Equipment - 1 roller

Off-road Equipment - Pavement cutter, tractor/loader/backhoe (x2), skid steer loader, trencher, street sweeper. Water truck added to trips.

Trips and VMT - Trips added to vendor trips for account for water trucks and delivery trucks for soil, crushed rock and pipes. Crew work trucks = 2-3 per day.

Grading - ~3,300 CY to be exported for gravity main plus sewer laterals

Architectural Coating - 1,800 SF to be painted (6% of 30,000 SF area to be paved)

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	6,540.00	1,800.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	27.00
tblConstructionPhase	NumDays	10.00	23.00
tblConstructionPhase	NumDays	3.00	107.00
tblGrading	MaterialExported	0.00	3,300.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	15.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	13.00	3.00
tblTripsAndVMT	WorkerTripNumber	9.00	3.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0596	0.5940	0.5404	9.2000e-004	5.5800e-003	0.0351	0.0406	1.4900e-003	0.0328	0.0343	0.0000	81.8700	81.8700	0.0176	0.0000	82.3095
2021	0.0844	0.7558	0.8520	1.4800e-003	9.3900e-003	0.0383	0.0477	2.5200e-003	0.0360	0.0386	0.0000	130.1607	130.1607	0.0284	0.0000	130.8700
Maximum	0.0844	0.7558	0.8520	1.4800e-003	9.3900e-003	0.0383	0.0477	2.5200e-003	0.0360	0.0386	0.0000	130.1607	130.1607	0.0284	0.0000	130.8700

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0596	0.5940	0.5404	9.2000e-004	5.4700e-003	0.0351	0.0405	1.4700e-003	0.0328	0.0343	0.0000	81.8699	81.8699	0.0176	0.0000	82.3094
2021	0.0844	0.7558	0.8520	1.4800e-003	9.2800e-003	0.0383	0.0476	2.5000e-003	0.0360	0.0385	0.0000	130.1606	130.1606	0.0284	0.0000	130.8699
Maximum	0.0844	0.7558	0.8520	1.4800e-003	9.2800e-003	0.0383	0.0476	2.5000e-003	0.0360	0.0385	0.0000	130.1606	130.1606	0.0284	0.0000	130.8699

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	1.47	0.00	0.25	1.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2020	11-30-2020	0.4818	0.4818
2	12-1-2020	2-28-2021	0.4165	0.4165

3	3-1-2021	5-31-2021	0.4674	0.4674
4	6-1-2021	8-31-2021	0.1133	0.1133
		Highest	0.4818	0.4818

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	1/27/2021	5	107	
2	Installation of pipeline	Trenching	1/28/2021	6/25/2021	5	107	
3	Paving	Paving	4/19/2021	5/19/2021	5	23	
4	Architectural Coating	Architectural Coating	5/20/2021	6/25/2021	5	27	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,800

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	6.00	81	0.73
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Sweepers/Scrubbers	1	2.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Trenchers	1	8.00	78	0.50
Installation of pipeline	Dumpers/Tenders	1	6.00	16	0.38
Installation of pipeline	Excavators	1	8.00	158	0.38

Installation of pipeline	Generator Sets	1	6.00	84	0.74
Installation of pipeline	Graders	0		187	0.41
Installation of pipeline	Rubber Tired Dozers	0		247	0.40
Installation of pipeline	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	6	3.00	2.00	413.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Installation of pipeline	5	3.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9000e-004	0.0000	1.9000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0572	0.5335	0.5213	7.5000e-004		0.0348	0.0348		0.0326	0.0326	0.0000	65.2453	65.2453	0.0165	0.0000	65.6575
Total	0.0572	0.5335	0.5213	7.5000e-004	1.9000e-004	0.0348	0.0350	3.0000e-005	0.0326	0.0326	0.0000	65.2453	65.2453	0.0165	0.0000	65.6575

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-003	0.0504	0.0111	1.3000e-004	3.3900e-003	1.6000e-004	3.5500e-003	9.2000e-004	1.5000e-004	1.0700e-003	0.0000	13.0903	13.0903	9.1000e-004	0.0000	13.1131
Vendor	3.2000e-004	9.5400e-003	2.5800e-003	2.0000e-005	5.5000e-004	4.0000e-005	6.0000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	2.1862	2.1862	1.4000e-004	0.0000	2.1896
Worker	6.1000e-004	4.9000e-004	5.4300e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.8000e-004	1.0000e-005	4.0000e-004	0.0000	1.3482	1.3482	4.0000e-005	0.0000	1.3492
Total	2.4300e-003	0.0605	0.0191	1.6000e-004	5.3900e-003	2.1000e-004	5.6100e-003	1.4600e-003	2.0000e-004	1.6700e-003	0.0000	16.6247	16.6247	1.0900e-003	0.0000	16.6520

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0572	0.5335	0.5213	7.5000e-004		0.0348	0.0348		0.0326	0.0326	0.0000	65.2453	65.2453	0.0165	0.0000	65.6574
Total	0.0572	0.5335	0.5213	7.5000e-004	7.0000e-005	0.0348	0.0349	1.0000e-005	0.0326	0.0326	0.0000	65.2453	65.2453	0.0165	0.0000	65.6574

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-003	0.0504	0.0111	1.3000e-004	3.3900e-003	1.6000e-004	3.5500e-003	9.2000e-004	1.5000e-004	1.0700e-003	0.0000	13.0903	13.0903	9.1000e-004	0.0000	13.1131
Vendor	3.2000e-004	9.5400e-003	2.5800e-003	2.0000e-005	5.5000e-004	4.0000e-005	6.0000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	2.1862	2.1862	1.4000e-004	0.0000	2.1896
Worker	6.1000e-004	4.9000e-004	5.4300e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.8000e-004	1.0000e-005	4.0000e-004	0.0000	1.3482	1.3482	4.0000e-005	0.0000	1.3492
Total	2.4300e-003	0.0605	0.0191	1.6000e-004	5.3900e-003	2.1000e-004	5.6100e-003	1.4600e-003	2.0000e-004	1.6700e-003	0.0000	16.6247	16.6247	1.0900e-003	0.0000	16.6520

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9000e-004	0.0000	1.9000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.1055	0.1117	1.6000e-004		6.5300e-003	6.5300e-003		6.1000e-003	6.1000e-003	0.0000	14.0905	14.0905	3.5400e-003	0.0000	14.1791
Total	0.0112	0.1055	0.1117	1.6000e-004	1.9000e-004	6.5300e-003	6.7200e-003	3.0000e-005	6.1000e-003	6.1300e-003	0.0000	14.0905	14.0905	3.5400e-003	0.0000	14.1791

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0102	2.3700e-003	3.0000e-005	2.8200e-003	3.0000e-005	2.8600e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	2.7952	2.7952	1.9000e-004	0.0000	2.8001
Vendor	6.0000e-005	1.8800e-003	5.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4683	0.4683	3.0000e-005	0.0000	0.4691
Worker	1.2000e-004	1.0000e-004	1.0800e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2818	0.2818	1.0000e-005	0.0000	0.2821
Total	4.9000e-004	0.0121	3.9600e-003	3.0000e-005	3.2500e-003	3.0000e-005	3.2900e-003	8.2000e-004	3.0000e-005	8.7000e-004	0.0000	3.5454	3.5454	2.3000e-004	0.0000	3.5512

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0112	0.1055	0.1117	1.6000e-004		6.5300e-003	6.5300e-003		6.1000e-003	6.1000e-003	0.0000	14.0905	14.0905	3.5400e-003	0.0000	14.1790
Total	0.0112	0.1055	0.1117	1.6000e-004	7.0000e-005	6.5300e-003	6.6000e-003	1.0000e-005	6.1000e-003	6.1100e-003	0.0000	14.0905	14.0905	3.5400e-003	0.0000	14.1790

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1000e-004	0.0102	2.3700e-003	3.0000e-005	2.8200e-003	3.0000e-005	2.8600e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	2.7952	2.7952	1.9000e-004	0.0000	2.8001
Vendor	6.0000e-005	1.8800e-003	5.1000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.4683	0.4683	3.0000e-005	0.0000	0.4691
Worker	1.2000e-004	1.0000e-004	1.0800e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2818	0.2818	1.0000e-005	0.0000	0.2821
Total	4.9000e-004	0.0121	3.9600e-003	3.0000e-005	3.2500e-003	3.0000e-005	3.2900e-003	8.2000e-004	3.0000e-005	8.7000e-004	0.0000	3.5454	3.5454	2.3000e-004	0.0000	3.5512

3.3 Installation of pipeline - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.4637	0.5748	9.0000e-004		0.0250	0.0250		0.0236	0.0236	0.0000	78.3817	78.3817	0.0187	0.0000	78.8491
Total	0.0496	0.4637	0.5748	9.0000e-004		0.0250	0.0250		0.0236	0.0236	0.0000	78.3817	78.3817	0.0187	0.0000	78.8491

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6600e-003	0.0528	0.0143	1.4000e-004	3.3700e-003	1.1000e-004	3.4800e-003	9.7000e-004	1.0000e-004	1.0800e-003	0.0000	13.1876	13.1876	8.1000e-004	0.0000	13.2078
Worker	6.9000e-004	5.4000e-004	6.0700e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5872	1.5872	5.0000e-005	0.0000	1.5884
Total	2.3500e-003	0.0533	0.0204	1.6000e-004	5.1300e-003	1.2000e-004	5.2500e-003	1.4400e-003	1.1000e-004	1.5600e-003	0.0000	14.7748	14.7748	8.6000e-004	0.0000	14.7962

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0496	0.4637	0.5748	9.0000e-004		0.0250	0.0250		0.0236	0.0236	0.0000	78.3816	78.3816	0.0187	0.0000	78.8490
Total	0.0496	0.4637	0.5748	9.0000e-004		0.0250	0.0250		0.0236	0.0236	0.0000	78.3816	78.3816	0.0187	0.0000	78.8490

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6600e-003	0.0528	0.0143	1.4000e-004	3.3700e-003	1.1000e-004	3.4800e-003	9.7000e-004	1.0000e-004	1.0800e-003	0.0000	13.1876	13.1876	8.1000e-004	0.0000	13.2078
Worker	6.9000e-004	5.4000e-004	6.0700e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5872	1.5872	5.0000e-005	0.0000	1.5884
Total	2.3500e-003	0.0533	0.0204	1.6000e-004	5.1300e-003	1.2000e-004	5.2500e-003	1.4400e-003	1.1000e-004	1.5600e-003	0.0000	14.7748	14.7748	8.6000e-004	0.0000	14.7962

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.1003	0.1138	1.7000e-004		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	15.1797	15.1797	4.7900e-003	0.0000	15.2995
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0133	0.1003	0.1138	1.7000e-004		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	15.1797	15.1797	4.7900e-003	0.0000	15.2995

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.2000e-004	1.3000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3412	0.3412	1.0000e-005	0.0000	0.3414
Total	1.5000e-004	1.2000e-004	1.3000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3412	0.3412	1.0000e-005	0.0000	0.3414

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0101	0.1003	0.1138	1.7000e-004		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	15.1797	15.1797	4.7900e-003	0.0000	15.2995
Paving	3.2800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0133	0.1003	0.1138	1.7000e-004		5.3500e-003	5.3500e-003		4.9300e-003	4.9300e-003	0.0000	15.1797	15.1797	4.7900e-003	0.0000	15.2995

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.2000e-004	1.3000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3412	0.3412	1.0000e-005	0.0000	0.3414
Total	1.5000e-004	1.2000e-004	1.3000e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3412	0.3412	1.0000e-005	0.0000	0.3414

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9600e-003	0.0206	0.0245	4.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	3.4469	3.4469	2.4000e-004	0.0000	3.4528
Total	7.1300e-003	0.0206	0.0245	4.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	3.4469	3.4469	2.4000e-004	0.0000	3.4528

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.5300e-003	0.0000	4.4000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4005	0.4005	1.0000e-005	0.0000	0.4008
Total	1.7000e-004	1.4000e-004	1.5300e-003	0.0000	4.4000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4005	0.4005	1.0000e-005	0.0000	0.4008

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9600e-003	0.0206	0.0245	4.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	3.4469	3.4469	2.4000e-004	0.0000	3.4528
Total	7.1300e-003	0.0206	0.0245	4.0000e-005		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	3.4469	3.4469	2.4000e-004	0.0000	3.4528

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.4000e-004	1.5300e-003	0.0000	4.4000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4005	0.4005	1.0000e-005	0.0000	0.4008
Total	1.7000e-004	1.4000e-004	1.5300e-003	0.0000	4.4000e-004	0.0000	4.5000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.4005	0.4005	1.0000e-005	0.0000	0.4008

